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ACTINOMYKOSIS: A NEW INFECTIOUS DISEASE OF ANIMALS AND MANKIND.

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(*Continued from p.* 81.)

Actinomykosis of the Œsophagus.

A most interesting instance of the disease in the œsophagus is described by Siedamgrotzky, who obtained the specimen fresh, and carefully examined it. The mucous membrane of the tube was covered with hundreds of small, flattened, sub-epithelial nodules, from one to four millimetres in diameter, mostly collected in groups, in each of which, in a bright light, a small yellow centre could be distinguished by the naked eye. In some places the small tumours had become confluent to form irregular, compact masses, about twenty millimetres long, of a pale-red tint, and in which the yellowish-red centres or kernels were visible. Some of the tumours stood out from the mucous membrane like pins' heads. In the middle of the œsophagus was a similarly-shaped polypus, from eight to nine millimetres in diameter, four millimetres high, and four millimetres in diameter at its base on the mucous membrane. The tissue of these masses was yellowish-red, soft, and filled with numbers of nodules containing the *Actinomyces*.*

* An analogous instance, but the real nature of which was not suspected, is given in the Edinburgh *Veterinary Review* (vol. iv., p. 235), under the heading, "Degeneration of the Mucous Membrane of the Œsophagus." The membrane was studded with what were described as warty growths, some of them of great size.

XUM

Actinomykosis of the Stomach and Intestinal Canal.

Two specimens of the disease in the stomach and intestines are described by Johne. In the second compartment of the stomach of an ox was found a round, flat tumour, the size of a fist, attached to its surface, and covered by normal mucous membrane. Its interior was soft, more or less spongy, and contained numerous small masses of nodules, consisting of conglomerations of the *Actinomyces*.

Bollinger alludes to what was described as a tuberculous ulcer in the rumen of a cow, but which he is of opinion was a case of Actinomykosis.

Perroncito has described a sarcoma of the intestines and stomach, in which the fungus was found.

Actinomykosis of the Udder.

Johne has described two instances, and Ponfick one, of the disease occurring in the udder. Two were in swine, and one was due to experimental inoculation. In Johne's cases—accidental and experimental—the disease appeared as a diffused fibroma. In the accidental case, the udder was enormously enlarged, and weighed nearly sixteen pounds; it was hard, indefinite in mass, and on section appeared to be, from its white colour, a cellular fibro-sarcomatous growth, in which the gland structure was limited to a few small masses in the midst of the new formation. The teats were partly normal, partly effaced by retraction into the tumour, and partly gangrenous and fissured. In the mass of the tumour were found a small number of well-defined nodules, from the size of a hazel-nut to that of a fist. The smallest of these contained a greyish-yellow or reddish mass, resembling brain tissue, with yellowish coloured nuclei interspersed throughout. In the centre of the largest the matter appeared to be undergoing caseous degeneration, and in some of the interspaces was a greenish-yellow, thick, puriform fluid. The milk cistern was markedly altered. In places it was smaller and larger, and near the centre of the tumour it was flask or flagon-shaped, its outline being sharply defined, and the dilatations being filled with the typical spongy tumour mass.

In the case produced by inoculation, reference to which will be made hereafter, the most interesting fact is that the *Actinomyces* was introduced into the gland by its milk duct, and that the inflammation set up in the mucous membrane, which was at first adventitional, became interstitial—affecting the intra-acinous connective tissue, and producing intensive development of the glandular parenchyma, with, finally, extreme hypertrophy of all the connective tissue.

Ponfick had sent to him the udder of a sow which had been affected with Erysipelas (*Rothlauf*), but there was such an unusual disappearance of the proper gland tissue, and altogether the lesions were so different to those brought about by that malady, that the existence of another disease was suspected.

In the middle of the largest half of a round swelling involving the entire mass of the mamma, and which was double the size of a child's head, were noticed a great number of soft, round nodules, fixed here and there in the lardaceous-looking substance of the tumour. This felt so peculiarly elastic, and was at the same time so compact, that on pressure on the surface it seemed as if the fluctuation was due to some deep-seated gelatinous fluid. This was enclosed in a white, dense, inelastic tissue, on the inner surface of which were some detached portions of the gland proper, and which formed, with the thickened and indurated cutis, a continuous kind of rind. The entire mass gave the impression that the parts had been affected with diffuse inflammation, which had produced extreme induration of the skin and the subcutaneous and gland tissues. But what was peculiar, was the presence in the homogeneous mass of a considerable number —more than a dozen—of sharply-defined nodules, from the size of a cherry-stone to that of a walnut, imbedded in a spongy, flesh-like gelatinous matrix, and studded with yellowish spots, islets, and small cavities. These cavities contained a greyish-yellow fluid, in which a number of white bodies, the size of millet-seed, were suspended.

Microscopically, no trace of the gland structure was found in the dense connective tissue. The yellow, flesh-like substance of the solid portion had a general resemblance to polymorphous round-cell tissue, with very few vessels, while lying in groups, in

concentric strata of increasing dimensions, were small white nodules. Throughout these, and in the fluid portion, were found immense numbers of the *Actinomyces*, many of them surrounded by a calcareous envelope. These felt like particles of sand.

Actinomykosis of the Lungs.

Actinomykosis of the lung of cattle had not been observed until Professor Pflug, Veterinary Professor in the University of Giessen, published an instance in 1882. Indeed, there were only four cases of lung Actinomykosis recorded previous to this—two occurring in the human species, and two produced in calves by experimental inoculation—all recorded by Ponfick.

Pflug's case is very interesting, and is as follows :—

A cow about five years old, appeared to be dull, did not eat as usual, and frequently coughed. For two days before the arrival of the veterinary surgeon, the appetite had almost gone, and the respirations and cough were so frequent that the owner thought the animal was suffering from inflammation of the lungs. The veterinary surgeon found the cow apathetic, nostrils widely dilated, and staggering about in the stall ; the dyspnœa was great, and the breathing most laborious. Percussion on each side of the chest yielded a dull sound, while auscultation detected an indefinable respiratory murmur, a bronchial rattle, and increased expiration. The pulse was proportionately strong, and the internal temperature 40·9° Cent. On a second visit all the symptoms were increased, and as they bore a strong resemblance to those of Contagious Pleuro-pneumonia—then prevalent in the district—he had the animal slaughtered. On examination, only the lungs were found to be diseased, being studded with miliary tubercles, and as this condition was very unusual, the parts were forwarded to Pflug.

The lungs were fully distended with air, and firm, but elastic ; for the most part they were anæmic and generally white, only small portions being hyperæmic. The pleura was normal, but there appeared throughout very many miliary tubercles the size of a pin's head, which formed so many slight prominences on the membrane, and caused it to feel granular. The lungs did not sink in water, even when incised. The cut surface had a fine

porous, or pumice-stone appearance; and no serum, but only a small quantity of blood, could be squeezed from it on pressure. The inter-alveolar and interlobular lung tissue appeared to be slightly thickened and porous, and this, together with the emphysematous condition of the alveoli, gave the lung its strongly-elastic consistency. On the cut surface were seen numberless minute tubercles, very granular, in size about that of a millet-seed, or a little larger. In the hyperæmic patches the tubercles were very conspicuous. In none of these nodules was there a yellow centre or softening, and to the unaided eye they looked very little different externally, or in consistency, from the ordinary crude grey tubercle which is developed into the yellow tubercle.

Thousands of these tubercles were observed throughout the lung, in the middle of the respiratory tissue, near the bronchi and blood-vessels, and in the vicinity of the lobular tissue.

On microscopical examination, in the lung substance were found an immense number of tubercles, so small that they escaped the naked eye. These were generally round, on the cut surface discoid, and when two were confluent, biscuit-shaped, or distorted, jagged, or gibbous.

The round or somewhat oval-shaped tubercles (Figs. 5, 6)

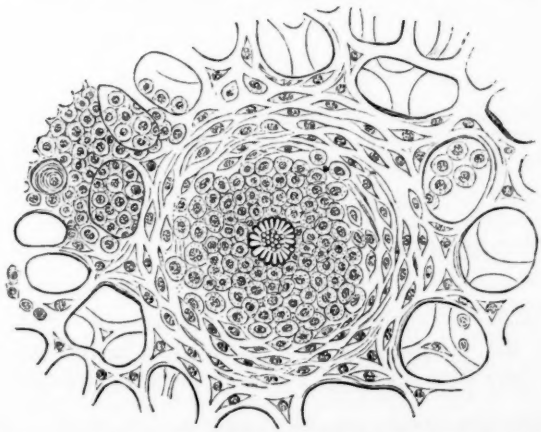

FIG. 5.—A Lung Tubercle or Nodule with an *Actinomyces* Tuft in the centre. From cow's lung.

were generally about 0·45 mm., seldomer 0·30; 0·27, or 0·20 mm. in diameter,* and contained either a dark-tinted nucleus, or a spongy structure, with perhaps a dark nucleus in its midst.

This dark nucleus proved to be the most interesting discovery in the diseased lung. It was a round, globular, rarely a slightly oval body, with a diameter of from 0·04 to 0·05 millimetres. Under a low power its contour was sharp and distinct, and it had a yellowish-green tint, with a markedly radiating structure. With a higher magnifying power, the contour was no longer sharp and circular, but notched or indented irregularly, and the radiating lines were found to be minute club-shaped particles,

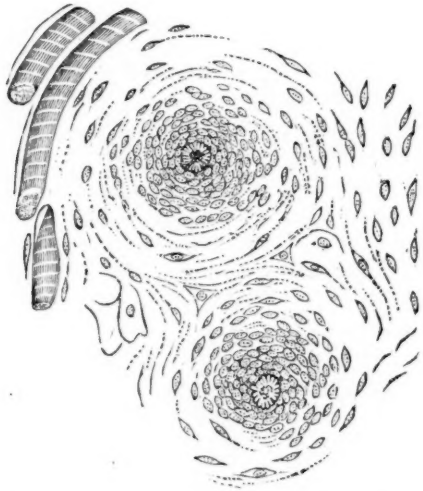

FIG. 6.—*Actinomyces* Tubercles or Nodules in the lung parenchyma. From cow's lung.

the smaller extremity being at the centre and the wider part toward the periphery of the mass. Still more highly magnified, there were distinctly observed in these radiating parts,

* A very large tubercle gave the following dimensions: Total diameter, 1·00 mm.; thickness of fibrous portion, 0·20; the middle cell portion enclosing the fungus, 0·60; *Actinomyces* tufts, 0·15.

particularly towards the centre, exceedingly minute, structureless granules of a light yellowish-green tint, refrangent, of a diameter between 0·008 to 0·01 mm. (Figs. 5, 7).

In some of the tubercles it was very difficult to discover this radiating nucleus; it was so small and delicate that it had to be looked for with the greatest care and patience, and was often composed of only a small number of the club-shaped radiating portions—from four to six, or only three, starting from a point in the centre.

In each tubercle, around the fungus, and forming a medium stratum, was a large mass of cells, about 0·25 mm. in diameter. These cells were round or slightly polygonal, and lying close to each other (Figs. 5, 6, 7). There were also

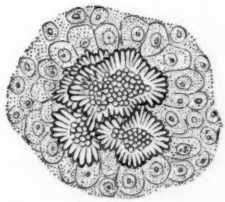

FIG. 7.—An *Actinomyces* Cluster surrounded by a number of large cells. From a cow's lung.

FIG. 8.—*Actinomyces* Sphere, with a supposed central foramen.

spindle-shaped and other cells. The cells of the middle stratum were composed of faintly granular protoplasm, with a large nucleus, which was stained a deep blue by hæmatoxylin. The external stratum was fibrous, the fibres being concentric around the cells; it formed the limit of the tubercle, isolating it more or less from the normal inter-alveolar tissue. There were other tubercles, as before mentioned, in which the fungus was so fine and small as to be difficult to detect.

In the anæmic portion of the lung, vesicular emphysema was well-marked, while in the hyperæmic portion there was no emphysema.

An important question arises with regard to the seat of these *Actinomyces* tufts in the lungs. Are they located in the parenchyma of the lung, the alveoli, or in the lymph or blood-channels, and there give rise to the *Actinomyces* tubercles? It would appear that the tubercles containing the fungus are found in the parenchyma, rather than the alveoli. In the intermuscular connective tissue of the tongue they are nearly always located, and it appears to be the same with regard to the lungs. In both nodules or tubercles there is the same structure—an external fibrous capsule, a middle stratum of cells, and the fungus in the centre; the only difference is, that in the tongue the fungus mass is drusey, in the lungs it is globular.

Professor Marchand, in examining very many microscopical preparations of these lungs, discovered the *Actinomyces* tufts in the finest bronchi, evidently giving rise to a cellular exudation. Thus strengthening the supposition that the fungus finds entrance through the respiratory passages.

Actinomykosis of the Skin, and Submucous and Intermuscular Connective Tissue.

Tumours which have, by some, been supposed to be of a scrofulous nature, and have received various names, such as "Cysto-sarcoma," "Lympho-sarcoma," "Hedgehog Throat" in Germany (and not improbably the so-called "wens" in Lincolnshire and elsewhere in this country), are somewhat common in cattle, rarer in other animals. Their chief seat is in the vicinity of the neck and head, towards the parotideal region. Several instances are recorded of similar tumours in other parts of the body, more or less voluminous, and which have, like those in the region of the head, been found to present the characters, and contain the microphyte, which distinguish Actinomykosis.

Perroncito describes a tumour removed from the anterior part of the neck of a three-year-old ox. This tumour had a wide, undefined base, and weighed nearly three pounds. On section,

XUM

it was found to be composed of shining connective tissue, encapsuling a sarcomatous mass, which contained small masses of the *Actinomyces.*

Johne alludes to an instance of Actinomykoma on the right cheek of a young cow. It was isolated, the size of a hen's egg, fungiform, and apparently sarcomatous; the skin over it was ulcerated. A test-section removed from it during the life of the animal, was found to contain granulation nodules within which were the *Actinomycetes.* Six months after this section was made, the tumour had disappeared, and there was only at the posterior border of the jaw, between this and the parotid gland, a small, spindle-shaped, characteristic *Actinomyces* tumour, and in the loose connective tissue between the upper and lower buccal glands were more yellow nodules, the size of a pea, each containing the fungus. The interesting feature in this case is the disappearance of the tumour without surgical treatment, it having only been dressed with Sulph. Cupri pulv. after the section had been made.

Another instance Johne met with in a two-year-old heifer, which had a round, fungoid, flesh-like tumour, about two inches in diameter, on the right cheek, near the angle of the mouth; it appeared to grow by an ill-defined pedicle from the muscles. The corresponding part of the buccal mucous membrane appeared to be healthy. On the surface of the growth were seen the characteristic yellow nodules, which proved it to be an Actinomykosis tumour. On removal, it was discovered to arise from the intermuscular tissue in the vicinity of the submucous connective tissue. The wound healed by primary intention.

Veterinary surgeon Eckert, of Walhalben, had sent to Johne, amongst other specimens, a round, dense tumour, about three inches in diameter, which had been removed from the sub-cutis, immediately over the masseter muscle, at the angle of the lower jaw. At the upper part of the tumour, at an earlier period, was a small fistulous opening, from which a whitish-yellow pus flowed, but which, having ceased, the opening healed, and the swelling became somewhat less prominent. Shortly before this period, he saw a similar tumour, slightly larger, which, like the other, was attached by strong connective tissue to the struc-

tures beneath. On examination, both tumours were found to be real Actinomykomata; they were the size of, or bigger than large walnuts, spongy in texture, and full of the fungus tufts enclosed in a capsule of thick connective tissue arising from between the sub-cutis and the inter-muscular connective tissue.

Rabe relates the case of a cow, which had a number of pale, greyish-red tumours, round or somewhat bean-shaped, and of various sizes, on the left side of the face. The largest, about the size of a hen's-egg, was situated at the outer margin of the nostril, where the cutis joins the mucous membrane, and was surrounded by a number of smaller and very small tumours. There were eleven others, varying in size from that of a hazel-nut to a plum, in the masseteric region; these were more or less apart, but between them were smaller ones, and here and there a marked cordiform kind of swelling—not unlike the inflamed lymphatics of Farcy. The majority of the tumours lay immediately beneath the skin or the fascia of the facial muscles; the surface was smooth, and each tumour seemed to be isolated from its fellows. Over some of them the cutis had become ulcerated, and they appeared on their upper surface moist, red, and fungoid.

On section of these tumours, there were observed a great number, particularly towards their periphery, of dull-yellow nodules the size of a pin's head, in the neighbourhood of which the tissue was soft, spongy, and moist. On microscopical examination, each of these yellow, submiliary granules was found to contain the *Actinomyces* tufts in abundance, and in their immediate vicinity a great quantity of pus-corpuscles and young connective-tissue cells, with very turbid protoplasm, and other characteristic appearances.

Actinomykosis in Man.

In mankind, so far as I am aware, only sixteen cases of the disease have as yet been recorded, Dr. Ponfick having observed no fewer than five. All the cases published hitherto have occurred, I believe, in Germany. They are tabulated as follows by Johne :—

No.	Observer.	Diagnosis.
1	Israël	Chronic Pyæmia. Death.[1]
2	Do.	Inflammatory Tumefaction of the alveolar processes of lower jaw, with deep-seated Abscess. Recovery.[2]
3	Do.	Subperiosteal abscess at the margin of the lower jaw, coincident with Caries of the third molar. Recovery.[3]
4	Do.	Chronic Pyæmia. Death.[4]
5	Ponfick....	Prævertebral Abscess, with Caries of the vertebræ. Death.[5]
6	Do.	A similar case, and fatal termination.[6]
7	Do.	Abscess after extraction of an upper molar tooth, immobility of the jaw through Cicatrization, Fistulæ in the temporal muscle and upper part of the neck. Death.[7]
8	Do.	Prævertebral Abscess, opening into the jugular vein, Metastatic Tumour in the heart, Actinomykotic Peri- and Myo-carditis. Death.
9	Do.	Ulceration of the jaw and Abscess. Partial resection. Recovery.[9]
10, 11, 12, 13	Rosenbach .	Actinomykosis Tumefactions, with deep-seated Abscess. Recovery.[10]
14	Kracke	Particulars not known.
15	Esmarch ..	Particulars not known.
16	Weigert ..	Peripleuritis.

[1] Virchow's Archiv, Bd. 74, s. 15. [2] *Ibid*, Bd. 74, s. 37. [3] *Ibid*, Bd. 74, s. 41. [4] *Ibid*, Bd. 78, s. 421. [5] Breslauer ärztlicher Zeitschrift, 1879, s. 116. [6] *Ibid*, 1879, s. 117. [7] *Ibid*, 1880, s. 151. [8] *Ibid*, 1880, s. 151. [9] Mittheil. v. d. Naturf.-Vers. zu Danzig. Berlin Klinik Wochenschrift, 1880, s. 42. [10] Centralblatt für Chirurgie, 1880, s. 225.

I cannot do more here than briefly refer to some of these cases, to show their relationship to those occurring among animals.

Professor Ponfick's original case was that of a powerfully-built man, aged forty-five, who had suffered from the sequelæ of Pleurisy on the left side for a year and eight months. After death, there was found an extensive prævertebral phlegmonous inflammation in the posterior mediastinum, with a parapleuritic abscess-cavity extending both to the right and left, at the level of the seventh, eighth, and ninth intercostal spaces; with this cavity there communicated a complex system of sinuses, extending through the substance of the longissimus dorsi, the scapular muscles, and the subcutaneous tissues of the whole back. The

XUM

sulphur-yellow fungus-bodies were found upon or between the granulations of these sinuses and in their substance, as well as in the sero-purulent discharge; they were also found in a cavity of the size of a cherry, which occupied the centre of a hepatised area of the left lung (lower lobe), as well as in the exudation that filled some of the neighbouring alveoli. The second case was that of a woman aged sixty-one, admitted with an abscess of the lower part of the abdominal wall; she subsequently developed another abscess of the left iliac fossa, without recurring symptoms of peritonitis, and died from exhaustion. After death, caries (with prævertebral collection of pus) of the three lower lumbar and first sacral vertebræ, abscesses in both iliac fossæ, and perityphlitic adhesions, were found. The yellow fungus-bodies were discovered in the pus of the prævertebral abscess. The third case was that of a woman, aged forty-five, who had suffered an injury of the right thumb three years before, with swelling of the arm, which did not subside, but extended to the neck and back, and was accompanied by progressive weakness. The necropsy revealed extensive sinuses on the left side of the neck and in the prævertebral tissue, a knob-like excrescence of new growth extending into the lumen of the internal jugular vein, a tumour, of the size of an apple, growing into the right auricle and ventricle, with corresponding whitish centres in the ventricular substance, and gelatinous nodules in the spleen and in the occipital lobe of the right cerebral hemisphere. In this remarkable case, the fungus-bodies were found in the sinuses of the neck, in the substance of the sarcoma-like growth of the jugular vein, in the tumour of the right auricle and ventricle, and elsewhere. In the fourth case, the illness began fourteen months before death, following the extraction of an upper molar tooth; it consisted of swelling in the region of the right maxillary joint, tumefaction of the face, and subsequently of the neck; successive outbreaks of abscesses and sinuses in these regions. Death occurred from extreme exhaustion. The yellow fungus bodies were frequently obtained in this case from the sinuses during life. The record of the case is too elaborate to be given, even in outline; but it may be mentioned that there was, besides the extensive sinuses and granulation-centres of the face and

neck, a prævertebral abscess extending from the basilar process of the occiput to the fourth dorsal vertebra, with osteophytic growths from all the bones, together with caries of both occipito-atlantal joints and of the right atlanto-axial. In the fifth case—a boy—the first indication of illness was a year before death, when he had symptoms of Pleurisy; nine months later, there was a new and much more severe affection of the same side, with general dropsy, progressive swelling in the lower part of the back, and evacuation of pus from a cavity opposite the eleventh left rib. *Post mortem*, a large prævertebral cavity was found on the left side, partly retropleural at the level of the eighth, ninth, and tenth ribs, and partly retroperitoneal at the level of the last two ribs and the left kidney; also several perforations of the diaphragm. There were numerous centres of Actinomykosis in the muscles of the back, in the intercostals, and in the left psoas muscle; also in the muscular substance of the left ventricle, and in the upper end of the spleen.

In Rosenbach's cases, the disease commenced in the neighbourhood of the jaws, and appeared to be in some way dependent upon carious teeth, involving the dental alveoli. Ponfick and Israel had remarked on this tendency of the disease to originate in the teeth or their sockets. This local affection is not unfrequently followed by metastatic abscess in the liver, spleen, intestine, and muscles. Death seems to result from Chronic Pyæmia, or from exhaustion, as a consequence of protracted and pernicious suppuration. In mankind the tendency of the disease is to the formation of abscesses and suppurations; in bovines, to tumours and small nodules.

In all the detailed reported cases occurring in man, there have been found, in the pus of the abscesses, immense quantities of small nodules, the majority being the size of a pin's head, sulphur-yellow in tint, and generally soft and tallowy in consistence. These are agglomerations of the *Actinomyces*.

The Actinomyces.

The botanical character of the *Actinomyces* does not seem to be yet clearly established. Harz, who first studied its morpho-

logy and biology, was inclined to consider it as belonging to the class of moulds (such as the *Penicillium glaucum*), but Karsten thought it should be included among the *Coniomycetes*, as the "rust" and "smut" of cereals and grasses, and therefore belonging to the *Ustilaginæ*. So long ago as 1870, Professor Hahn, of the Munich Veterinary School, had discovered in a case of "Wooden Tongue" (*Holzunge*) characteristic organised bodies, which looked like a kind of brush-shaped mould. When Bollinger drew attention to the disease in 1877, and to the presence of these fungi, Harz made a special investigation of them, and from their eccentric radiating structure gave them the name of *Actinomyces*. As has been already shown, the fungus is contained in nodules which are often soft or puriform, and forms a pale-yellow, brownish, or greenish-yellow, globular tuft, which, under a low microscopical power, offers a radiating arrangement of its substance, from the centre towards the periphery, reminding one somewhat of the crystals of certain fat acids. The larger of the tufts, which generally are composed of two or more mulberry-shaped masses, often appear to the naked eye as very small, millet-sized bodies. When properly prepared and highly magnified, if the nodules were embedded in tissues, they are observed to be composed of a kind of fibrous capsule; within this a layer of cells, for the most part of a lymphoid character; nearer the centre are larger cells, like ordinary epitheloid cells; and in the centre the *Actinomyces* clusters.* Iodine, anilin, and picric acid give these a characteristic reaction, the cell-membrane generally offering a cellulose reaction. Alcohol, æther, acids, and alkalis have no immediate effect upon the fungus tufts, and this distinguishes them from such bodies as fat crystals. By pressure, the globular tufts can be broken up into numerous kind of wedge-shaped pieces of various sizes, from 0·010 to 0·050 millimetres in length, and the majority are about equal in breadth towards the end. Each piece is composed of a great number of individuals, every one of which is somewhat conical, from 0·0005 to 0·0020 millimetres

* A good method of showing the *Actinomyces* is to cut sections, and stain them singly with Spiller's purple, or doubly with it and diluted soluble blue. To demonstrate the separate parts of the nodule, a small portion may be teased out in glycerine.

broad, about 0·0045 millimetres long, representing the mycelium, from which begins a central base-cell or basidium. From this arises a two to nine-stalked hyphen, from 0·0005 to 0·002 mm. in diameter, and at the extremity of the stalks or sterigmata are the conidia.

(*To be continued.*)

NOTES ON CATTLE DISEASES IN THE PUNJAB, INDIA.

BY VETERINARY SURGEONS QUERIPEL AND NUNN, ARMY VETERINARY DEPARTMENT, RAWUL PINDI, INDIA.

(*Continued from p.* 98.)

As during the year 1881, a number of outbreaks took place, and it was seen that nothing could possibly be done until legislation on the subject existed,a short Act—copy of which is attached, Appendix B—was submitted for the consideration of the Punjab Government by Veterinary Surgeon Queripel, and it is hoped that the time is not far distant when it will receive the sanction of the Imperial Government. It will be noticed that isolation and quarantine are the measures mainly relied on, for, as before stated, the question of occision cannot be entertained, owing to caste prejudices. In framing the Act, it had also to be borne in mind that we were dealing with a people totally ignorant of the advantages to be derived from it; for this reason it was endeavoured to make it as little irksome as possible at first, reserving to the Local Government the power of hereafter framing such rules as would tend to its better working. In forwarding this Act for the consideration of Government, the necessity for asking for the hearty co-operation of the rulers of Native States in the matter was pointed out, or, as was stated in the event of this not being obtained, it would be necessary to totally prohibit the entry of any cattle, hides, or other articles from their territory when any contagious disease was known to exist, and it would be imperative to make it obligatory on their part to inform the Local Government when any such disease was prevalent.

This Act met with the warm approval of the Financial Commissioner, but the late Lieutenant-Governor was of opinion that

XUM

the time had not as yet arrived for legislation on the subject to be adopted, expressing at the same time his opinion that, as in western countries, nothing but occision had been found sufficient to eradicate Cattle Plague, it would be useless to introduce any less severe measures. This, however, we fear, was owing to a misunderstanding of the case, for in the first place we have contagious diseases other than Cattle Plague to deal with; and again, although we cannot eradicate the disease, still we can, without harassing the people to any very great extent, prevent its extension, and by so doing we would be conferring an incalculable boon on the country. To show how necessary it is that the matter should be speedily taken up, we would give the following extract from a report lately received from a Deputy-Commissioner, or chief civil officer, of a district of this province, wherein, stating that cattle disease is prevalent, he adds:—"The people will do nothing at all to try to prevent or mitigate the cattle disease. They say it is fate, and will not take the trouble to isolate those attacked, as it is too cold in the open, and too much trouble and expense to build sheds specially for them."

It certainly should not be permitted that the apathy of the people in one district should be allowed to exist to the ruin of the farmers of neighbouring districts, for the disease must and will surely spread.

The necessity for legislation is perhaps more clearly seen when we consider the enormous cattle-fairs held annually in the Punjab: at a rough calculation it is estimated that 400,000 are collected for sale at these fairs. If, therefore, as has been before stated, animals from infected centres are allowed to proceed to them and to be exposed for sale; and, further, if no legislation exists, by which the movements of affected cattle can be governed, it must not be a matter for surprise if the disease obtains at times most gigantic proportions, far beyond all control. It is at these periods that the disease may be said to stamp itself out, by removing every head of cattle in the infected place. We have alluded solely to the existence of cattle disease in the Punjab, as we are intimately acquainted with it in this province.

From weekly reports on sanitary and agricultural subjects

published in the North-Western Provinces and Oudh, it would appear to be widespread there also from time to time. For some years this government had the services of a veterinary surgeon placed at its disposal, and it is to be regretted that this is not continued. Again, in Assam it is very prevalent; in British Burmah also it is said to prevail to a large extent, but here the services' of Veterinary Surgeon Frost are available.

It will therefore be seen that the requirements of this country are large, if Government wishes to adopt measures that will successfully guard it against the ravages of the various epizoötics that exist in India. We, as a profession, naturally anxious to bring the knowledge of veterinary science to the aid of the agriculturists of this country, who annually suffer such losses, are deeply indebted to the Editor of THE VETERINARY JOURNAL for having brought the matter so prominently forward, and we are glad to see from the letter of the Secretary of State for India, that the reduction in our numbers is solely for military purposes, and that the question of the civil requirements will meet with further consideration.

To conduct the duties of a civil department in this country satisfactorily, it would, in our opinion, be necessary to obtain the following staff:—(1) Veterinary Officer, who would hold the same position with reference to the Imperial Government as the Surgeon-General does. It would be his duty to advise Government concerning the outbreaks which might from time to time occur, and to suggest such rules for their suppression as would suit the various localities at which they might appear; this power to frame rules having been reserved to the Local Governments in the proposed Act. This officer would have the direction of all officers serving in the civil department, and in this way one general system for the whole of India would be in force. To this officer all returns would be furnished by the other veterinary surgeons serving in different provinces, and from his office all statistics as to mortality, etc., would be obtainable.

To assist this officer in properly carrying out the provisions of this act, the following would also be required:—

Veterinary officer for each of the following provinces:—

XUM

Punjab, North-Western Provinces and Oudh, Lower Bengal, Central Provinces, and Assam.

The question of the requirements of the Madras and Bombay Presidences would have to be separately considered.

These latter officers would be purely executive, and, working under their respective governments, would be able to advise with them as to the best measures to be adopted in severe outbreaks. We have stated that one officer would be required for each province. This would be necessary at the onset, but as the people became more enlightened, and more stringent measures could be adopted, it would be necessary to appoint a second veterinary officer to each province if immunity from contagious diseases is desired.

To enable the work to be carried out, it would be necessary to have a good subordinate staff; this would, of course, be carried on through native agency, and might be based on the subordinate medical staff of the Indian Medical Department, except that it would not be necessary to have highly trained men, as the real requirements of the country are veterinary sanitary police. In this way they would not be highly paid officials, but still might be made very effective. They should be recruited from the class of zemindars or farmers, who are accustomed to cattle from their early childhood. They should be taught the rudiments of medicine, and should also know the treatment of the more common bovine and ovine diseases, in order that, when not employed on sanitary work, they might afford assistance to the farmers, and in this way they would specially be trusted and appreciated by the people. The chief subjects, however, in which they should be carefully trained, are those which should regulate the movement of cattle during the prevalence of any epizoötic, the isolation of sick, and general rules which would obtain whilst an epizoötic existed in their district. One of these subordinates should be appointed to every tehsil, or sub-division of each district, and should work under the direct superintendence of the tahsildar, or native magistrate, and under the orders of the Deputy-Commissioner of the district. This system has been tried in the Rohtak district, where Rinderpest has prevailed to a great extent The Deputy-Commissioner of that district, seeing that something

must be done, appointed them, and the working of the system has been carefully watched and can be strongly recommended. Their pay is only Rs. 10 per mensem, whilst the head man, who travels about to superintend the working of the others, receives Rs. 15. Here, therefore, we have an inexpensive, but at the same time a most useful, staff. One of the duties of the executive veterinary officer or officers of each province, would be the selection, education, and practical training of these men. This would really form one of his most important duties, for on the good working of his subordinate staff would depend the success of the various measures which would be adopted for the suppression or prevention of contagious diseases.

Appendix A.

Rules recommended to be translated and widely circulated. April, 1879 (First phase of Afghan War).

1. On the appearance of Cattle Plague or Foot-and-Mouth Disease, notice should at once be sent to the Deputy-Commissioner.

2. A reward of Rs. —— will be given to whomsoever may bring the first intelligence.

3. Immediately on its appearance, a piece of ground outside the village should be set apart, and every affected animal must be sent there under a penalty for non-compliance. This piece of ground should be well removed from any line of traffic, and should be to the leeward of the village (that is, calculating on the prevailing winds), as infection is likely to be conveyed.

4. According to the number of animals attacked one or more men should be employed by the villagers, whose sole duty should be that of tending the cattle. No other persons on any consideration should be allowed near the cattle, and nothing should be allowed to leave the place. All excreta, etc., that can be burnt should be disposed of in this manner, the rest should be buried in the same manner as will hereafter be laid down for the disposal of carcases.

5. On the death of an animal the hide should be deeply slashed with crucial incisions, and the whole buried to the depth of four

feet, quicklime to be thrown over it. Inattention to this order to be punished by the infliction of a severe fine on lambadar, (head man of village) and owner. Place of burial to be as close to the place of isolation as possible.

6. No convalescents should be allowed to leave until three weeks after recovery.

7. The place in which an animal has become affected, prior to removal, should be disinfected in the following manner:—All ground, floors, mangers, etc., to be removed and replaced by fresh earth, wooden work to be covered with quicklime. Fumes of sulphur to be extensively used. The clothes of the attendant to be well boiled before he is allowed to go near any other animal.

8. The fact that a village is infected should be widely proclaimed to surrounding villages, and the zemindars should be warned not to allow any cattle from the infected centre to approach a healthy village. All traffic should be stopped as far as possible, and all fairs suspended.

9. On the termination of the outbreak any temporary structures that may have been erected on the place selected for isolation to be burnt, the place to be thickly strewn with quicklime, and then deeply ploughed.

10 and 11. Relate to treatment in cases of Foot-and-Mouth disease.

12. In both diseases most scrupulous cleanliness is required.

Appendix B.

Draft of Proposed Act for Preventing the Extension of Cattle Plague.

Short Title of Act.

I. The Cattle Plague Act.

Definition.

II. The term cattle includes bulls, cows, oxen, heifers, calves, and buffaloes.

The term animal means cattle, sheep, and goats.

The term Cattle Plague, the disease known as Rinderpest, but

more commonly called Cattle Plague, also known in vernacular by many names, but more commonly as "Wah," or "Zaimat."

First Report.

III. On the outbreak of the disease, the owner of the animal and the police are at once to report the fact to the tahsildar, or nearest magistrate, who will without delay report the same to the Deputy-Commissioner. The latter officer shall then communicate the fact by telegram to the Commissioner of the Division, and also to the Local Government. Any owner of affected animals, or police constable, who neglects to report the disease, is held guilty of an offence under this Act, unless he can prove, to the satisfaction of the magistrate before whom he is charged, that he did not know the same to be affected, and that he could not with reasonable diligence have obtained such knowledge.

Declaration of an Infected Place.

IV. When such report has been made, the inspector appointed by the Local Government shall, with as little delay as possible proceed to the spot, and if he certifies in writing that the disease exists, the place shall be declared an infected place.

Area of Infected Place.

V. The area of an infected place shall include the field, stable, cowshed, or other premises in which Cattle Plague has been found to exist, and all lands and buildings lying contiguous, also an area comprising one mile in every direction from the boundaries of these lands or premises.

Extension of Infected Place into another District.

VI. If the infected place is on the borders of two districts, the Deputy-Commissioner of the district in which the disease originally broke out may, in communication with the Deputy-Commissioner of the other district, include in the infected area a portion of that district not exceeding one mile from the boundaries of the infected premises.

Notice of Declaration of Infected Place.

VII. Every declaration of an infected place shall be published

n the Punjab Government *Gazette*, and locally every land and householder living within an infected area shall be warned of the fact by the police, who shall be held responsible that this is done.

Census to be taken.

VIII. On a place being declared an infected locality, a careful census of all animals should be made by the lambardar and patwaries, who will be held responsible that it is correct. It should contain all particulars of bulls, oxen, heifers, calves buffaloes, goats, and sheep, together with the owners' names, who, whilst the place is infected, shall report all births and deaths within twenty-four hours to the lambardar. The lambardar to submit a daily return to the tahsildar.

Fairs and Movements of Animals to be stopped.

IX. All fairs and markets shall be stopped in any district in which there may be an infected centre, and no animal, or anything which has been in contact with that animal, shall be moved without license from the inspector, or other competent authority named by the Local Government, until such district be declared free.

Offences as to Infected Places.

X. If any animal's hide, skin, hair, wool, horn, hoof, offal, carcase, dung, hay, litter, or any other thing is moved in contravention of the rules of this act with respect to infected places, every person moving the same or causing the same to be moved shall be held guilty of an offence against this act.

Exception for Railways.

XI. The rules of this act with respect to infected places shall not restrict the moving of any animal or thing by railway through an infected place, such animal or thing not being stopped within the infected place.

Formation of Lazarettos.

XII. On the outbreak of Cattle Plague, the local authorities shall, in every village in which the disease may appear, appoint a secluded place which, with reference to prevailing wind, should be to leeward of village, as lazarettos. The lambardar

shall be held responsible that all cattle affected are to be removed to it immediately, special attendants and utensils to be told off, and not to leave until the locality is reported free.

All dung, litter, etc., shall be burned daily, and whilst occupied as a lazaretto, no person shall be allowed to enter. The lazaretto shall be surrounded by a temporary fence of thorns or other brushwood.

Removal of Cattle from Infected Sheds.

XIII. Cattle remaining in sheds and stables from which sick have been removed, are to be confined there until the district is declared free.

Cleansing and Disinfection of Sheds.

XIV. Every shed, yard, or stable from which a sick animal has been removed, shall be disinfected in the following manner. All woodwork to be scraped and covered with newly-made limewash, the ground of flooring to be removed to the depth of two feet, all walls to be scraped and freshly lepied ;* all hay, litter, dung, or other article that has been in contact with the diseased animal shall be burnt.

(*Note.*—For this purpose a quantity of lime should be supplied by local authorities, and as the burning of sulphur in sheds is strongly advocated, a supply of this article is recommended if the expense can be met.)

No fresh Animals to be admitted into Infected Places.

XV. No fresh animal to be admitted into any yard, shed, stable, or field in which any animal affected with Cattle Plague has been kept or has died, until the expiration of thirty days after the cleansing and disinfecting of such premises in pursuance of this act.

Burial.

XVI. On the death of an animal it shall be buried in some place removed from the village and close to the lazaretto, which should be set apart for this purpose. The depth of the place in which an animal shall be buried shall not be less than six feet, the hide shall previously be slashed, and the carcase covered with a sufficient quantity of quicklime.

* Lepied means coated with mud-plaster, common in this country.

XUM

Carcase not to be dug up.

XVII. Any person who shall dig up, or cause to be dug up, the carcase, or any part of the carcase of any animal so died, shall be held to be guilty of an offence under this act.

Discontinuance of Declaration of Infected Places.

XVIII. A place shall be declared to be free from Cattle Plague at any time after the expiration of twenty-eight days from the disappearance of the disease. The Deputy-Commissioner of the district shall report the fact in order that it may be published in the Punjab Government *Gazette.*

Termination.

XIX. On the place being declared free a final census of all animals shall be taken. The lazaretto shall be burnt and the ground strewn with lime and dug up.

Power of Duty of Inspector.

XX. An inspector or other officer authorized to act in execution of this act may at any time enter any field, stable, cowshed, or other premises within the limits to which this act may extend when he has reasonable grounds for supposing that any animal affected with Cattle Plague is to be found. He may also at any time inspect any railway, boat, or other vehicle proceeding from or passing through an infected district. He may, if he has reasonable grounds for suspecting that the animals are being moved in contravention of this act, detain the truck, boat, or other vehicle, reporting the matter to the nearest magistrate, who will, if so satisfied, deal with the case in accordance with the provisions of this act. If any person refuses admission to or obstructs or impedes such inspector, he shall be deemed guilty of an offence against this order.

Duties and Powers of Police.

XXI. The police shall at all times assist the inspector and shall be held responsible that his orders are carried out.

Any police constable may proceed as follows :—

(*a*) He may apprehend any person found committing an offence against this act with respect to infected places; he shall take any person so apprehended as soon as possible before the

nearest magistrate to be examined and dealt with according to law. A person so apprehended shall not be detained in custody by any constable without a warrant longer than is necessary for bringing him before a magistrate.

(*b*) He may require that any animal or thing removed from an infected place in contravention of this act be forthwith taken back within the limits of that place.

Powers to Local Government to frame Rules.

XXII. The Local Government may from time to time, with a view of preventing the spreading of Cattle Plague, make regulations for the following purposes :—

For prohibiting or regulating the movement of animals on to, and the keeping thereof on, commons or wastes whereon there exists a right of common.

For preventing any person from driving animals under his charge on any high way.

For preventing or regulating the traffic of hides or other articles that have been in an infected place.

For providing for the cleansing and disinfection of sheds and places used by animals affected with Cattle Plague.

For prohibiting or regulating the entry of cattle or hides into any district from adjoining native states when Cattle Plague is known to exist there.

Evidence of Disease.

XXIII. The certificate of an inspector to the effect that an animal is affected with Cattle Plague shall for the purposes of this act be conclusive evidence in all courts of justice and elsewhere of the matter certified.

Penalty.

XXIV. Any person infringing any of the provisions of this act shall be liable to a fine not exceeding Rupees fifty, or to a term of rigorous imprisonment not exceeding one month, or both.

XUM

THE ECHINOCOCCUS VETERINORUM IN A HORSE.

BY W. R. RAYMOND, A.V.D., 17TH LANCERS, INDIA.

I HAVE just discharged, cured, from the Sick Lines, 17th Lancers, a horse which was attacked with Echinococcus Veterinorum; and as, from a perusal of the English and few foreign works at my disposal, amongst others Cobbold's "Bibliography," I find the literature of hydatid disease of the horse very scarce, I deem it my duty to put this case on record.

The host is a chestnut Arab gelding, 18 years old, and has never been unwell. It was admitted on the 20th December, 1882, with a very large, hard, but painless tumour on the near side, extending from about the ninth to fourteenth ribs. The swelling was treated with Biniod. of Mercury, and after two applications a large abscess was found, ripe for lancing. No sooner had the lancet penetrated than a deluge of clear watery fluid and hydatid capsules issued and fell on the ground; but, after the first rush, I was able to catch enough specimens to fill two pint bottles. I evacuated a good many more, but, having no more bottles ready at the time, I did not preserve them.

On introducing my finger into the wound, I discovered a cavity between the panniculus and ribs capable of containing about a pint of liquid. From this space a passage, measuring one inch horizontally and two inches vertically, led, through the ribs, to an inner chamber, of which I could touch neither sides nor bottom. I was afraid to use a probe lest I might pierce the pleura.

For two days after the operation capsules, full and empty, issued in ones and twos whenever the patient moved. On the third day suppuration set in.

The wound was fomented, and healed rapidly. The horse showed no constitutional symptoms throughout, nor any pain when the place was touched.

I reckon that, from beginning to end, nearly a gallon of liquid and hydatids was evacuated.

The cysts varied in diameter from a quarter of an inch to two inches. They had mostly daughter, and some few grand-daughter, vesicles inside them.

Under the microscope they appeared similar to the ordinary

Echinocci of other domesticated animals. All the capsules I examined had heads in them. A good many of the burst vesicles were yellower than I have seen them before, which may have been due to age, or perhaps to the application of the Biniodide of Mercury.

Whilst removing the hydatids after lancing the abscess, I attempted to obtain additional information concerning the case from the syce in charge. He, however, knew nothing, but another man, also employed in the Sick Lines with another horse, hearing my questions, volunteered the following. He states that he has known the animal since it joined in 1869, and used to groom it. Seven years ago a swelling, about as large as half a walnut, appeared on the near side, which he showed to the sergeant who rode the horse. It was thought to have been caused by the saddle, and as it got no worse no further notice was taken. He says that the enlargement went on increasing very slowly indeed up to within a few months, when its growth became accelerated.

The syce's statement is supported by that of the farrier of the troop, who tells me that when he took over charge, three years ago, he wanted to have this horse sent to the infirmary, but was told there was no necessity, as the lump had always been there and in no way interfered with the animal's work. It was then much smaller.

It is well known to all interested in helminthology, that hydatid disease is exceedingly prevalent amongst the cattle and sheep in India, which is not extraordinary, considering where and what they feed on when grass becomes scarce. I myself have attended and made *post-mortems* of a good many bullocks, and about a hundred sheep at odd times. I can only call to mind the case of one bullock entirely free from cysts. The greater part of the lungs of another animal, also a bullock, belonging to the Nehow Heavy Field Battery, which died about eighteen months ago, had become absorbed, the space being occupied by Echinococcus cysts.

As regards the locality generally infested, I have found that in cattle the lungs and liver, in sheep the mesentery and lungs, most frequently hold them.

In horses my experience is limited to this one case.

ACUTE LAMINITIS, WITH CONSTIPATION OF THE BOWELS.

BY H. THOMPSON, M.R.C.V.S., ASPATRIA, N.B.

On Sunday, the 13th Nov., 1881, I was requested to attend a half-bred cart mare, the property of Mr. Richard Graves, Gill-head Colliery, Hemly Marypit. Early in the morning the mare was found suffering from acute founder, when the shoes were removed and the animal put on to soft wet clay, one quart of raw linseed oil administered, and a man dispatched for me. Being from home at the time, it was 6.30 p.m. before I saw her, or about twelve hours after she was first observed. I found her in a fearful condition; perspiration dropping from her body, respiration hurried, pulse full and strong, eyelids dark-red, no fæces having been passed during the day, urine dribbling from her on the slightest movement, and feet so painful that she would not stir. Had all the clay removed at once, and put on *cold* bran poultice; abstracted nine quarts of blood from the neck, and gave Aloes ʒvj, and left Tr. Aconite F., to be given in twenty-drop doses every six hours in a little cold water, and warm water injections every four hours.

Nov. 14th, 9 a.m.—No improvement, bowels not acting, gave injections of Aloes in solution ʒiijs; continue Aconite with Potass. Nit. ʒjs, morning, noon, and night, in three quarts of cold water, and continue warm water injections every three hours.

9.30 p.m.—No response from the bowels, mare rather easier, perspiration not so profuse; administered Aloes ʒiiijs in solution, with Ol. Lini. ʒx; and same quantity of Aloes was given per rectum as an enema.

Nov. 15th, 9 a.m.—Bowels still constipated, rectum dry on examination, eyelid injected, pulse wiry and quick, respiration hurried, perspiration pouring from the body, lungs threatened with congestion; gave Lig. Amm. Acetate Concentrate ʒij, Spt. Nit. Æth. ʒj, aqua ℈j; continue warm water injections, with Aconite and nitrated water to drink, and poultices constantly wet with cold water.

XUM

9.30 p.m.—Mare very bad, throws herself down; gave Aloes ʒiv dissolved in water, and Ol. Lini. Oss.; continue Aconite and nitre drinks.

The animal by this time had received Aloes 13½ drachms, and Ol. Lini. 3 pints, with Aloes 7 drachms, as injections.

Nov. 16th, 2 a.m.—Mare passed a quantity of dry malted *whole* Indian corn; after this she appeared easy, bowels responding freely, scarcely anything but whole Indian corn passing.

9 a.m.—Very much improved, gets up and walks about the box, drinks nitre water and well-boiled oatmeal gruel; all the active symptoms abated, bowels acting in great force.

7 p.m.—Picking a little hay and bran-mash, all the symptoms favourable.

Nov. 17th.—Continues feeding, walks round the box, but very tenderly, bowels getting into a nice consistency; continue Aconite and nitre water three times in twenty-four hours; ordered poultice to be removed for four hours out of the twenty-four.

Case continued to go on all right, had shoes put on within three weeks, and sent on to the land to plough stubble.

INVERSION OF THE BLADDER (PROLAPSUS VESICA).

BY J. DIBBEN, M.R.C.V.S., A.V.D., 5TH LANCERS.

THE subject, a mare five years old, was originally under treatment for a severe injury to the off hock. Being excessively lame, she was placed in slings, remaining in them for about two months, when she was removed into a loose box; she was very much emaciated. About this time, what was thought to be a tumour or vaginal polypus, was observed protruding between the labia of the vulva. Not being satisfied as to its nature, I mentioned the case to Mr. Murray, A.V.D., and he kindly saw the mare with me. On careful examination, the two nipple-like openings of the ureters were seen, from which small jets of

urine escaped every few minutes, leaving no doubt that the case was one of inversion of the bladder. The bladder was at this time about the size of a newly-born child's head, cone shaped, hanging by its neck, the ureters being exposed; the outer surface was smooth and of a bright-red colour; there was great thickening of the walls. The mare was apparently in good health, pulse, temperature, and respirations normal, appetite good. After making several ineffectual attempts to return the bladder, I decided on amputation. A ligature was placed round the viscus about an inch posterior to the ureters; this was left on for two days, being tightened daily; the patient during this time evincing signs of abdominal pain. On the third day the body of the bladder was amputated; there was very little hæmorrhage. The wound was cleansed several times a day with carbolised tepid water, Ol. Lini. Ojss was given immediately after the operation, followed by small doses of Tinct. Aconite occasionally. Next day the patient was not feeding; pulse, temperature, and respiration accelerated, great disinclination to move, and when moved did so with difficulty. Warm fomentations were applied to the lumbar region, and warm water was thrown into the rectum every hour. On the third day the patient began feeding; the pulse, respiration, and temperature were about normal; wound healthy, evacuated a little urine about every five minutes, placing herself in proper attitude. Five days after the operation the neck of the bladder receded into the vagina, leaving nothing to show of the operation. The mare did well afterwards and improved greatly in condition, but being of no further use as a trooper, was ordered to be destroyed about two months after the operation.

The *post-mortem* examination showed the wound to be perfectly healed, and the remaining internal organs healthy.

XUM

Editorial.

FOOT-AND-MOUTH DISEASE.

THE agricultural interests of this country have for several years been subjected to a series of misfortunes which have more or less affected the entire community; but this year, so far as it has gone, threatens to eclipse those which have been considered unfortunate for agriculturists and stock-keepers. To weather which, during some months, has been simply disastrous, so excessive has been its humidity and absence of sunshine, there is added a widespread outbreak of that harassing and impoverishing scourge, Foot-and-mouth disease, which looks as if it would give the *quietus* to many stout-hearted farmers who have weathered the storm until it appeared.

It must be confessed that it is greatly discouraging, after so many years' legislative restrictions and heavy expense, to find that this country is still ravaged by a purely contagious disease which it is not surely beyond the power and skill of veterinary science, in a country like our own, to thoroughly eradicate. We do not impute blame to any one in the matter, but nevertheless we cannot but regret that long ago strenuous efforts were not made to extinguish this and similar pestilences which annually cause great loss, and are a perpetual source of embarrassment and annoyance.

It is a great mistake to suppose that every outbreak of one of these scourges—such as the one under consideration—is due to foreign importation. Nothing of the kind. Foot-and-mouth disease is never absent from some part of the country, and often there are many centres where it is as active and virulent as when it was first introduced. These centres are a standing menace to other districts free from the infection, and it needs but little sometimes to fan the smouldering embers into a widespread conflagration. Such is the history of the present explosion of the disease. It has broken out of its bounds and has been spread in the usual old-fashioned way, just as if there was no Contagious Diseases (Animals) Act in existence, and no machinery to oppose its advance.

The fact is, contagious diseases of this description will never, can never, be stamped out in these kingdoms, even if no fresh importation from abroad could be absolutely guaranteed, under present conditions. There is no energy or combined effort to effect their extinction—no central authority to initiate and carry out a bold and uniform system of suppression. Entrusting the business to local authorities is futile in the extreme, as the experience of many years demonstrates; for while one body may act with energy and intelligence, another will be as stupid and perfunctory. England, Ireland, and Scotland are now suffering from this malady, and the losses it will cause before it is again brought within its ordinary dimensions will form a bitter addition to the calamities we were already suffering from—all the more bitter, too, as this loss was preventible, while those due to inclement weather are beyond the power of man to avert.

The fact might as well be looked in the face, that we shall always be liable to these outbreaks of Foot-and-mouth disease so long as it is

allowed to linger in these kingdoms, even if all communication with other countries were completely cut off. However much we may lament such an occurrence, there is no reason for expressing surprise at it. The infection will spread just as it finds opportunity, and the rapidity and extent of its invasion will be that of the means and the channels by which it may be conveyed.

The same remarks apply to Lung-plague. This malady is far from being suppressed, and it will never, in all probability, be got rid of by the present machinery and method of dealing with it. Though it is stated that this grave disorder is extinct, or nearly so, yet we are assured that if we desire a specimen of diseased lung, we shall not have much difficulty in obtaining it.

The calamities heaped upon us by unfavourable seasons we may grieve at, but we cannot rail against; those from which we suffer through our own indifference or neglect, are certainly irritating and mortifying, to say the least of it.

Contagious diseases are not to be trifled or temporised with, but demand wise measures, promptly, vigilantly, and thoroughly carried out with a view to their total suppression. They can all be extinguished, but this requires different treatment to that with which we are familiar in this country.

INFLUENZA AMONG HORSES.

RECURRING outbreaks of the disease commonly known as Influenza, though they may be inconvenient, and are often serious enough, do not generally cause great alarm, or attract much attention. But when an invasion of the disorder comes upon us under a new name, then inquiry and apprehension are stimulated, and the non-veterinary portion of the community dread the consequence of its appearance. A somewhat widespread epizoöty of Influenza —that multiform and infectious malady with which we are so familiar—has been prevalent for some weeks, but under the inapplicable and ridiculous designation of Pink-eye"—a designation which should not be admitted into veterinary parlance; and the strange and startling name has caused much consternation. There does not appear to be anything noteworthy beyond other attacks of Influenza we have witnessed. Many years ago we formed the opinion that it was infectious, and in "Veterinary Sanitary Science and Police" we included it among the transmissible diseases of animals. Our contemporary, *The Field*, gives the following interesting notice of the present outbreak.

"All the information obtained during an inquiry in the districts wherein the disease prevails which is now known as Pink-eye, strengthens the conclusion that the affection is not a new one, but a severe form of the disease which has been familiar to horse-owners from time immemorial, under the comprehensive title of 'Influenza.'

"In its most common and therefore generally recognised form, Influenza assumes the character of Catarrh of the mucous membrane of the respiratory passages, with general prostration and low fever; but in the course of the last thirty years we have met with the disease under various guises. Sometimes the outbreak is distinguished by complications, in which the digestive organs are chiefly implicated; the visible mucous membranes are not only injected with blood, but also present a distinct biliary tinge, denoting derangement of the liver. This form of Influenza has prevailed within our recollection, during several of the periodical outbreaks which have occurred

within the time we have mentioned; and the term 'Bilious Fever' was generally used to distinguish this phase of Influenza from the ordinary catarrhal type.

"Again, Influenza has repeatedly been associated with swelling of the eyelids, and injection, with consequent redness, of the conjunctiva. Frequently this symptom has been so constant, that the remark of the groom, 'There's another with his eyes bunged up,' was accepted as an equivalent for any more technical or refined description of the disorder.

"Swelling of the joints has often been observed as a special feature of some outbreaks of Influenza, and we have a vivid recollection of the unfortunate results of this complication in the case of horses which had reached the convalescent stage after a severe attack. In many cases the swellings were attended with excessive pain, and in some instances extensive suppuration took place, and fatal exhaustion resulted.

"Congestion of the lungs has been noted as a common phase of Influenza in some seasons, and we recollect more than one outbreak in which a low form of Pneumonia, with abscesses in the lungs, was a frequent feature.

"The symptoms which have recently been observed in cases of so-called Pink-eye, in different districts, vary to some extent, but the following description includes all the most prominent indications of disease.

"At first the animal appears to be dull and disinclined to move; stiffness of the loins, as if from a severe sprain, is a peculiarity of the early stage of the affection. Swelling of the eyelids, and consequent closure of them, follows; and when the lids are separated the membrane is seen to be of a red or pink colour, often with a tinge of yellow in addition. Discharge of tears takes place generally, but the common symptom of ordinary Influenza, discharge from the nose, is usually absent in this form of the malady. Quick and weak pulse, frequently ninety in the minute, with an elevated temperature—104° to 105° or even higher—are also among the symptoms which have been observed. Want of vital energy is evident throughout the attack.

"As the disease advances to the later stages, the prostration becomes more marked. The secretion of urine is scanty, and very often the constipation which marks the early stages is succeeded by diarrhœa, the discharges being profuse and fœtid.

"In regard to the intestinal complications, the disease appears to present quite different features at certain times and in different districts. Some veterinary surgeons state that they have not met with a case of Pink-eye in which diarrhœa was a symptom, while others have remarked its presence in the majority of the cases which have come under their care. Possibly the mode of treatment, medical and dietetic, may have something to do with this difference.

"Extension of the irritation down the larynx and windpipe are results which have been observed in many cases, but it does not appear that the lungs are implicated, except in the worst forms of the disease; and then extreme congestion of these organs, with the formation of abscesses and the occurrence of partial gangrene, necessarily lead to the death of the animal.

"Up to the present time, Pink-eye has been most prevalent in Derby, Nottingham, Wakefield, Newcastle-on-Tyne, and Sunderland. In Derby the disease appeared shortly before Christmas, and during January it extended rapidly in the town, and has reached some of the surrounding districts. The Corporation stables are perfectly paved, drained, and ventilated, and the horses are well managed in regard to work and feeding; notwithstanding which, thirty animals out of forty-two were attacked, and six died—a large proportion under such favourable conditions. No cause for the outbreak could be assigned.

"The occurrence of Pink-eye at Nottingham is attributed to the introduction of some Russian ponies, which were landed at Hull and sent to the Notting-

ham district to be used for pit-work at the Charlestone Colliery, near Wakefield. Pink-eye broke out among the first horses shortly before Christmas; and here also the disease was referred to the introduction of some foreign ponies. The evidence, however, was not very clear; in fact, the persons concerned were not much disposed to afford information, and very little was ascertained beyond the fact that the disease existed, and that several ponies had died.

"Foreign ponies are charged with having introduced Pink-eye into Newcastle-upon-Tyne. A certain dealer got part of a cargo of Roumanian ponies which were shipped at Hamburgh and landed at Hull early in November; one of the ponies was discovered to be ill in the dealer's stables, but it was presumed that the animal had taken cold on the voyage, and no particular precautions were taken. Some of the ponies from the same cargo were sent to the stables of a dealer in Durham, and in both cases the disease began to spread among the horses in the stables.

"From the facts above stated, and from similar instances which have been reported, it is reasonable to conclude that Pink-eye is a contagious or infectious disorder, and it is further probable that an attack confers a certain amount of immunity against a second attack for a considerable time.

"Several veterinary surgeons have stated, as the result of their observations, that none of the animals which were attacked with Pink-eye last year in Newcastle have suffered in this outbreak; while in some establishments which altogether escaped last year, the greater number of the horses have suffered recently.

"There is some comfort to be gained from the impression which is entertained by the veterinary authorities in the North of England, that the disease is becoming less virulent, fewer animals are attacked, and the proportion of fatal cases is much reduced."

POISONING OF CATTLE BY PHOSPHORUS.

POISONING of the larger animals by phosphorus is such a rare occurrence, and its importance from a toxicological point of view is so great, that the following particulars of an occurrence of this kind, published in the *Wochenschrift für Thierheilkunde* some time ago, will be acceptable to those whom it concerns.

Merkt, a veterinary surgeon at Kempten, was called to the farm of an agriculturist of Darach, where eight of seventeen head of cattle, standing in one shed, had become unwell. The symptoms observed were: groaning, severe dyspnœa, loud respirations, frequent and very violent cough, and anorexia. The seven animals ultimately died. On examination of the bodies there were no indications of pulmonary hepatization, though considerable emphysema of the lungs was present, and in one case this was complicated with extensive subcutaneous emphysema, probably consecutive to vesicular rupture in these organs.

The other cattle did not perish, though three of them had aborted eight days previously.

Nothing to account for this loss could be discovered in the hygienic conditions of the cowshed or in the quality of the food. The animals had not been out of the building for three weeks, and were attended to by the owner himself. Merkt was, however, informed three days after he was called in, that two days before the cattle showed signs of illness, the drain or urine-pit (*stallgülle*) beneath the shed had been emptied to the bottom, and that some months before the contents of a barrel composed of matters from a lucifer-match manufactory had been thrown into this pit. The stable occupied by the cattle had been kept constantly closed while the contents of

the pit were being removed; consequently, the animals were compelled to inhale the phosphorus vapours which were disengaged therein, and the presence of which was demonstrated during the night, by the phosphorescent light and the peculiar fumes of that substance.

As had been stated, the other cows recovered, but care was afterwards taken to remove the inmates of the stable when the pit had to be emptied.

Merkt still hesitated in attributing the disease among the cattle to this cause alone, until about six weeks later, when he was called to give his attention to cattle in a large and spacious stable belonging to a farmer of Waltenhofen.

Seventeen of twenty-five animals therein were ill, and six of them showed such severe symptoms of dyspnœa that asphyxia appeared imminent. The cows groaned, gasped for breath through the open mouth, got up and lay down incessantly, the tongue was protruded, the pulse very much accelerated, and there were well-marked symptoms of pulmonary emphysema; the cough was very violent, there was complete anorexia, and in two of the animals subcutaneous emphysema.

Merkt, taught by his former experience, was not long in eliciting the information that, ten weeks previously, there had been thrown into the manure-heap attached to the stable, a lot of refuse from the lucifer-match manufactory at Kempten, and that this still contained much phosphorus. This dung-heap had been emptied once since then; but at that time the cattle were at pasture, and only three which were in the stable at night became affected. These recovered without the cause of their illness having been suspected. The disease on the present occasion was due to the same circumstances, but it was more severe, owing to the fact that the cattle were kept in the stable, the openings into which were closed while the manure was being carted away. Two of the cattle had to be sacrificed, as a fatal termination in their case was not doubtful. The others were saved.

DEATH OF AN OFFICER FROM GLANDERS.

We learn from Lucknow of the death of Captain Logan, Bombay Infantry, as well as two natives, from Glanders, contracted from diseased horses employed in Egypt. It appears that on board the transport which conveyed him to and from Egypt there were horses and mules, and that he was constantly among these. Some time ago, we pointed out the very insufficient and defective condition of the army veterinary service in India (civil veterinary service there is none), and that contagious diseases were everywhere rampant and destructive, among these being Glanders. We also mentioned that a regiment of Bengal cavalry, which had been infected with that disease for a long time, was permitted to embark for Egypt, in all probability without its horses having been medically inspected; that soon after arrival glandered horses were found in the ranks; and that the disease had appeared among other horses, presumably from the infection being conveyed to them by that regiment. And now human beings have been doomed to a hideous death, through this gross carelessness or indifference. Surely the state of affairs in India with regard to animal diseases deserves investigation! *Kismet* appears to be the word at present.

THE ROYAL AGRICULTURAL SOCIETY'S VETERINARY PRIZES.

It will be observed in the report of the meeting of this Society, which appears elsewhere, that the handsome prizes offered to recently-graduated veterinary surgeons have been withdrawn, the reason being, that they were not competed for as the Society hoped they would have been. The prizes,

three in number, were given annually, and in the seven years during which they were offered, only nineteen competitors, we are informed, entered the list. Every well-wisher of the profession must regret the apathy on the part of the younger members which has led to this result, as it will doubtless be considered a reflection upon the entire body, and lead to the belief that we are destitute of emulation and professional *ésprit*.

The Society has behaved very generously, after the bad appreciation of its liberality, in deciding to give a silver and bronze medal to those students of the Royal Veterinary College who pass the best examination in cattle pathology at the final examination of the Royal College of Veterinary Surgeons.

At the competition which took place for these prizes on the 27th January, Mr. W. H. Edgar won the first prize (gold medal and £20), Mr. A. H. Archer, second prize (silver medal and £10), and Mr. J. B. Gresswell, third prize (bronze medal and £5).

Reviews.

UEBER ZUCHTLÄHME: NACH EIGENEN PATHOLOGISCH-HISTOLOGISCHEN UNTERSACHUNGEN. Von Dr. LUDWIG V. THANHOFFER. (Budapest, 1882.)

The somewhat obscure equine disease which has been included in "Veterinary Sanitary Science and Police," under the designation of "Venereal Disease of Solipeds," and which is known in France as the "Maladie du Cöit," in Germany as the "Bösartige Chankerkrankheit," and in Arabia as "El Dourine," has for very many years been seriously engaging the attention of horse-breeders in Eastern Europe, and especially in Austria-Hungary. The symptoms and course of the malady we are already made acquainted with in the above work, but we had still much to learn with regard to its pathological anatomy.

The Austrian Government recently appointed a commission to study the disease, the members being chiefly veterinary surgeons, among whom were Professor Bela Tormay, director of the Budapest Veterinary School, and Professor Thanhoffer, of the same school. The report of this commission has just been issued in a quarto of sixty-six pages, with twelve coloured lithographs, and is chiefly made up of the elaborate and skilful investigations of Thanhoffer, whose researches were of a histopathological character, and extended from 1875 to the end of 1881. During this period he examined thirty-three cases of the disease, and after giving a short sketch of each during life, he enters into minute details as to the macro- and microscopical appearances he discovered after death. These details are full of interest as a really scientific inquiry, conducted with great ability, into the pathology of an obscure, transmissible, and nearly always fatal disease, spread only through infection during copulation.

Thanhoffer finds the most marked and characteristic lesions in the nervous system. Those consist of extreme hyperæmia of the spinal pia mater, thickening of the dura mater, and much increase in the quantity of arachnoideal secretion. But though in very advanced cases similar changes were noted in the cervical and cephalic regions, the lesions were constant and most accentuated in the lumbar and sacral portions

of the cord, which in shape was always asymmetrical, in both white and grey substance; the latter also exhibiting blood extravasation, a yellowish tint (due to pigmentary degeneration of the cells), and at its terminal portion granular softening. The latter was observed in other parts, in advanced cases, in addition to breaking up of the commissures of the central canal.

The chief portion of the work is taken up with the histological observations, particularly of the nerve-cells, the white and grey substance of the cord, vessels, etc., and these prove that profound changes have taken place in them during the course of the malady.

Thanhoffer summarises his labours in concluding (p. 60) that this Zuchtlähme is, primarily, an affection of the spinal cord, consisting either in a central hæmorrhagic myelitis, a syringo-myelitis, or in more or less important changes involving the white substance. These lesions vary in degree, according to the duration of the malady; while Thanhoffer is of opinion that the alterations noticed in the skin and generative organs are only consecutive to the disease in the spinal cord.

The coloured plates illustrating the work are excellent, and show in a startling manner the changes that take place in the cord.

Published under the authority of the Austrian Minister of Agriculture, this work forms a most important addition to the literature of a subject which does not appear to have come under the cognizance of British veterinary surgeons in any of our dominions.

ANATOMICAL TECHNOLOGY AS APPLIED TO THE DOMESTIC CAT: AN INTRODUCTION TO HUMAN, VETERINARY, AND COMPARATIVE ANATOMY. By B. G. WILDER, B.S., M.D., and S. H. GAGE, B.S. (New York and Chicago: A. S. Barnes and Co., 1882.)

This is a study of anatomy, based on the dissection of the cat, and is an admirable monograph in its way, complete to the minutest detail, scholarly in an unusual degree—for the subject, and in every respect worthy to take rank as a very advanced introduction to human, veterinary, or comparative anatomy. While intended as a guide-book for beginners in dissection, yet it goes far beyond these, not so much in what it absolutely contains, as in what it suggests in the method of teaching and demonstrating anatomy. What is, perhaps, the most notable feature in the work is the desire to introduce a new and improved anatomical nomenclature; and there can be no doubt that in this direction there is room for much improvement. In many respects we think the attempt is attended with success, and though it requires a long time and much perseverance to effect any change in anatomical designations, yet improvement is needed, and here it begins and goes a long way.

The descriptions in the book are clear, concise, and couched in language so direct and simple that the student need have no hesitation in resorting to it, in order to be initiated into this branch of science. The woodcuts, too, are clearly and carefully drawn, and appear to be very accurate. As a mere anatomy of the cat, this book is much ahead of any other that has been published on the subject; and as an introduction and guide-book to the study of anatomy, it affords us much pleasure to recommend it to every student who is about to commence dissection.

Proceedings of Veterinary Medical Societies, &c.

ROYAL COLLEGE OF VETERINARY SURGEONS.

SPECIAL MEETING OF COUNCIL HELD JANUARY 19th, 1883.

GEO. FLEMING, Esq., President, in the chair.

Present:—General Sir F. Fitzwygram; Messrs. Harpley, Dray, Cartledge, Cox, Wragg.

The SECRETARY read the notice convening the meeting.

On the motion of Mr. DRAY, seconded by Mr. WRAGG, the minutes were taken as read.

The SECRETARY announced that the following members of the Council had sent letters regretting their inability to attend the meeting:—Messrs. Simcocks, Taylor, Robertson, and Cartwright.

Alteration of Bye-law.

Mr. DRAY proposed that the alteration in one of the bye-laws, proposed by Professor Walley at the last meeting and carried, be confirmed.

Mr. WRAGG seconded the motion.

General Sir FREDERICK FITZWYGRAM moved as an amendment, "That the alteration be not confirmed." He considered that it would be a step in the wrong direction altogether. Some years ago the Council compelled all students to attend a whole course of lectures and examinations. Since then he himself had proposed to relax that rule, and to allow qualified men to prove that they were qualified, without attending the lectures. Any further relaxation of the rule would, in his opinion, be injurious to the best interests of the College and to the qualifications of the students.

The PRESIDENT said that, according to the unaltered bye-law, any gentleman who was a graduate of a foreign or Colonial school was admitted to the first and second year's examinations without attendance on lectures; the alteration would exempt them from all attendance on lectures and from the examinations at the end of those years. They would, however, have to study and to pass in Class C. He (the President) supported the alteration, because he thought it unfair to a gentleman who had graduated in a foreign or Colonial school to come up for examination in the A. and B. subjects. He had also in his mind that distinguished members of the profession holding foreign or Colonial diplomas might come up for examination, and it would be very hard upon them to have to be examined in such very elementary subjects.

The amendment not being seconded, the resolution was put and carried, and the proceedings of the Council then terminated.

LANCASHIRE VETERINARY MEDICAL ASSOCIATION.

THE usual quarterly meeting of this Association was held at the Blackfriars Hotel, Manchester, on December 14th, at six p.m.

The following thirty-five members and visitors were present:—Members—Mr. Alexander Lawson, president, in the chair; Messrs. Peter Taylor, Greaves, Whittle, Marshall, Fergusson, Darwell, Dacre, Thos. Briggs, Locke, Hopkin, Challinor, Litt, W. A. Taylor, A. W. Briggs, Wm. Leather, Jno. Lawson, Bunnell, Bridge, Faulkner, Ingram, Thomas, Bottomley, Beard, Michaelis, Leach, Woods, jun., Hart, H. C. Harrison, and Wolstenholme. Visitors—Messrs. H. H. Harrison, Bain, Crawford, Wilson, and Packman.

The minutes of the last meeting were read and confirmed, and the letters apologising for non-attendance were presented.

Mr. W. A. TAYLOR proposed, and Mr. A. W. BRIGGS seconded, "That Mr. H. H. Harrison, M.R.C.V.S., Manchester, be a member of our association." Carried unanimously.

The SECRETARY proposed, and Mr. BRIDGE seconded, "That Mr. Frank Bottomley, M.R.C.V.S., Oldham, be a member of this society." Carried unanimously.

Mr. WM. LEATHER nominated Mr. Bain, and the SECRETARY nominated Mr. Davidson, for membership.

The TREASURER then read his annual report, which shows that there is a small balance in our favour.

Mr. WM. LEATHER gave notice that at the next meeting he would move an amendment to Rule 2, so that it should fix the dates of our meetings more definitely.

Mr. WHITTLE also gave notice that he would move that the annual subscription be raised to one guinea.

Mr. FAULKNER proposed, and Mr. WHITTLE seconded, that Messrs. Peter and W. A. Taylor be auditors for the ensuing year. Carried unanimously.

Mr. WHITTLE proposed, and Mr. GREAVES seconded, that a vote of thanks be given to Mr. Alexander Lawson, the retiring President, for the admirable manner in which he has fulfilled the duties devolving upon him. Carried unanimously.

Mr. LAWSON briefly and suitably acknowledged.

Mr. PETER TAYLOR proposed, and the PRESIDENT seconded, that a vote of thanks be given to the Treasurer and Secretary for ably fulfilling the duties of their respective offices. Carried unanimously.

After the last resolution had been acknowledged, Mr. WHITTLE proposed that Mr. Wm. Woods, of Wigan, be president for ensuing year.

This was seconded by Mr. W. A. TAYLOR, and carried unanimously.

Mr. FAULKNER declined re-election as Treasurer, and Mr. PETER TAYLOR proposed that Mr. Thos. Briggs be treasurer, seconded by Mr. LOCKE. Carried unanimously.

Mr. PETER TAYLOR proposed, and Mr. LOCKE seconded, that Mr. Wolstenholme be re-elected secretary. Carried unanimously.

Messrs. Jno. Lawson and E. Faulkner were elected vice-presidents, with Mr. Alexander Lawson *ex-officio*.

A discussion followed on the question of the "Existing Practitioners," after which Mr. TEDBAR HOPKIN read an excellent paper on "The Buying and Selling of Horses, and their Examination as to Soundness."

The Buying and Selling of Horses, and their Examination as to Soundness.

Gentlemen,—After receiving a request from the Secretary to read a paper on Soundness, I naturally turned my thoughts to the subject, and as I drew the mental picture of the examination of a horse, with buyer and seller both standing by, awaiting the verdict, I resolved to treat the subject in its threefold aspect; hence the title of the paper, "Buying and Selling of Horses, and their Examination as to Soundness." Poets sing of the ever varying and changing face of nature. Lawyers tell you to count on (and advisedly so) the glorious uncertainty of the law. Man, too, is ever changing from the cradle to the grave, physically and mentally; time is working its silent changes.

It does not require a very protracted experience, for any one with ordinary aptitude, to become convinced of the changeable and uncertain nature of the equine species. April weather in its most capricious forms is not more change-

XUM

able and uncertain than are some of our subjects; hence the disappointment and chagrin that we often see manifested when people concerned are not philosophical enough to bow to the inevitable. But adieu to moralizing, and for a time let us consider the general purchasers of horses, and particularly those of our own district. For the sake of convenience we shall divide them into three classes. In the first I put those who are willing to pay full value for what they require, whether it be high or low, and will yield, say, twenty per cent. of the whole number of purchasers.

2nd. Those who are willing to pay a moderate price, but expect the choicest article; take these as representing, say, thirty per cent. of the whole.

3rd. Those who want the best article that can be got at the lowest price; half the buyers, or, fifty per cent., may be included in this class.

If seasoned, tried, and proved animals are required for either hunting, harness, or business purposes, the first class ought to get them, being willing to pay for them. Unfortunately for the comfort of all concerned, the first class is only small,—too small, in fact, to create a demand great enough to pay the vendors to keep a stock affording reasonable choice. A Lancashire dealer would tell you it is an impossibility to buy such animals—that the London and South Markets are so much better than ours, that the best horses are out of his reach; this is because the majority of customers are not willing to pay what they cost to produce, with a reasonable profit to cover risk and trouble. The unsatisfactory state of our staple industry tends to diminish rather than increase good-priced buyers. Hacks and harness horses trained and seasoned, are more easily produced than clever hunters, and yet we find men supplying the last-named class of horses exclusively and successfully, both in a pecuniary sense and otherwise, cleverness and manners in a hunter are a marketable commodity.

At a sale of hunters last April, twenty-eight horses realized £4673 10s., giving an average of £167 per horse, although nine were sold under the £100 each. The highest price given was £409 10s.; and I have no hesitation in saying that two out of every three would have been rejected by Manchester veterinary surgeons as unsound. These were regarded as high prices, but I doubt if any one with four or five thousand pounds would increase his capital materially if he bought four-year-olds, made them two seasons, paid all expenses of keep, men's wages, run risks of illness and accident, and then sold them as well as the stud here alluded to,—but he has had his sport, one says. Gay sport, riding a raw four-year-old to hounds and risking your own neck and limbs, as well as the animal's. Then, again, hunting buyers belonging to the first class are not nearly so squeamish about soundness as some in the second class, to which reference will be made shortly.

Roaring, blindness (partial or complete), navicular disease, and thick tendons are objected to. I maintain that if customers were willing to pay proportionately for the other classes of horses, making and seasoning, the law of supply and demand would complete it; but in reality we have no attempt made to supply seasoned horses for either harness or trade purposes.

In Africa horses that have become acclimatised, or as they term it "salted," are considerably enhanced in value. Buyers of the first class have accepted a similar fact here, and the sooner all parties concerned will embrace it the better; but at present I find no one who views the making and seasoning of harness-horses as an occupation sufficiently remunerative to be worth the following—at any rate in our district.

Our second class is, perhaps of all, the most difficult to deal with. In it I should include the owners of horses in and around Manchester who know little or nothing about them, only keep, and often have but just sufficient accommodation for, the number they require. These men will tell you the exact price they intend to give, and often do give the price they fix, irrespec-

XUM

tive of the real value; will pay the veterinary surgeon to examine it, and then, expect to have it for perpetual use—whether little or much, depending upon, caprice or circumstances for years to come.

Should anything turn up to interfere, as it generally does, and prevent the realization of this expectation, then either the vendor has swindled, or the veterinary surgeon should not have passed it, or the stupid coachman has done something to cause it. Anything and everything is blamed but the right cause, the unreasonableness of the owner who thinks the fact of his having given £60, £80, or £100, ought to insure his having an animal to use *ad libitum* like a machine; because he has not got this, he will take or threaten legal proceedings; failing this, sell the brute for what he can get, anathematise all who have had any connection either near or remote with the purchase; change his dealer, or veterinary surgeon, or man, or all; and should an opportunity be offered for any explanation, he will quote the case of another horse that, either by force of circumstances or as the exception to the general rule, has stood proof against all usage reasonable and otherwise; a vow is then registered never to buy another horse without trial and warranty (two things most unfair and unjust, with a tendency to produce roguery and litigation *ad nauseam*), or the horses are voted such a nuisance and the source of so much trouble and annoyance that, if circumstances will admit, they are sold, and hiring takes the place of ownership. The sooner such men learn that four-year-old horses fresh from the country require a long time of careful, gentle work on either country roads or soft ground, and that 75 per cent. will prove failures if this is not done; even with care a good number will not be entirely satisfactory. Illness, terminating in unsoundness or death, may come about notwithstanding every attention. These facts must surely convince thoughtful buyers that they ought to be willing to run these risks, or pay some one else for incurring them.

Older horses are at times in the market and sold at the price they very likely were worth as four-year-olds. These are exceptional cases, and the supply is not equal to the demand.

People willing to give nineteen shillings for one pound are always plentiful, whilst acceptors of the same are equally scarce.

I have tried to pourtray here customers we all know only too well. Very often arbitrary, unreasonable men, good payers, but exacting, successful mercantile men, conducting their business with mathematical precision, and trying to do the same with their horses. I confess I used to stand somewhat in awe of them; but latterly have been more out-spoken and run the risk of offending them, by plainly telling them that if they keep horses, they must run the risk, and bear the loss when it arises. Some clients are lost; but when one goes another generally comes, and the peace of mind is worth something. The third class are less trouble and anxiety to the veterinary surgeon than either the first or second. I should include in this thorough horsemen, with a natural aptitude or liking for horses. They are born horsemen. I don't use this in any disparaging sense, because it is thoroughly compatible with the character of true gentlemen.

These men know fully as well as we do what wears out horses' legs and produces the ills horses are heir to. Disease and death or permanent unsoundness are regarded as the ordinary risks of ownership, and often spoken about in a half-pagan sort of style as a piece of bad luck; there is no reason why some of these should not belong to our first class, providing their means admit of it; but the generality of them you will, I think, be inclined to agree with me, and place in the third class. Whilst some few men believe good horses are never sold cheap, a far greater number are of the opinion that high-priced horses are not always good ones, and that often the best are sold at ridiculously low prices, as they may have proved by experience.

XUM

Owners at times, through impatience or defective knowledge, sacrifice good animals. It may be the horse has been bought for some particular purpose, proved unsuitable; another man judges his capabilities more accurately, and uses him for work for which he is adapted. The practical soundness is here more sought after than absolute soundness; less is said about trials, warranties, and receipts. "Here's your money; give me the horse," is more the type of man, and for my part I wish there were more of them. Horse-buyers with extended experience ought in time to become philosophical enough to admit that the purchasing of horses is somewhat of a lottery with more blanks than prizes, and must remain such from the naturally constituted order of things, whilst judges are fallible and horses scarcely less fickle than women, and I think they ought to be taken like wives, for better or worse; although at times they may prove like the man's wife, all worse and no better.

The Seller.

Compassion is not often bestowed on any one having a horse to sell, and yet there are to some natures no more trying or annoying ordeals to go through, and, we must admit, it often proves unsatisfactory. This opens a wide field. I once heard a dealer say "that the horse was never yet foaled for which there was not a buyer;" much in the same way as soldiers believe "that every bullet has its billet."

Some horses take very circuitous routes to get to theirs. How often we have seen an animal change hands time after time, until at last he finds his billet, and we are told by his owner he is the best animal in the world, never had his equal for the work he requires him to do. Now, for my part, as I have said before, I should be glad to see the selling of a horse to be final—no appeal, as the auctioneers put it—at the fall of the hammer to be the property of the purchaser, with all faults and errors of description, if any.

SELLERS of horses may also be divided into three classes—1st, the breeder; 2nd, the dealer; 3rd, the miscellaneous or private individual, Considering the haphazard style in which animals are bred, the wonder is we get as many good ones as we do. The science of breeding, for it is a science, in spite of its neglected state, was perhaps better understood and more carefully studied by Darwin than almost by any man that ever lived. It was my good fortune to spend some time in the company of a Scotch gentleman, who had most carefully studied and practised the breeding of Clydesdale cart-horses on the lines laid down by Darwin, and his success was beyond dispute. Our pure-bred stocks never indulge in such freaks as we see in promiscuous crossers. On the other hand, it is necessary that great care be taken, not to sacrifice to purity of breed, soundness and health, and the baneful influences of in-and-in breeding if pushed too far, are too well known to need notice.

Like produces like—but in breeding the most unlikely are brought together. and people are foolish enough to expect the good properties only to be transmitted to the offspring. Unsoundness may, or may not be hereditary, and sufficient care is not used in selecting animals for breeding purposes. If unsoundness be present it should be of the non-hereditary character. Unfortunately the loss entailed by the breaking of this natural law does not always fall on the parties who are the cause of its being violated. The young horse will probably be sold before the constitutional defect develops itself; it may be designedly sold because of the known tendency to unsoundness, or it may remain in the hands of the breeder long enough to teach him a practical lesson.

One of the duties of the wealthy landowners or the Government ought to

be the providing sires of known character and soundness in country districts, insisting at the same time that all mares put to these sires are free from hereditary unsoundness. Some few years back there was a rumour that the Prince of Wales, and others in high position, would take this matter up, but it appears to have given place to music, and whilst fully admitting the refining, elevating, and purifying tendency of the latter, the utility of the former cannot be gainsaid.

In breeding from pure strains the sire and dam are alike, and then like gets like. I contend we ought to breed our hunters from hunting mares by steeplechase horses, not out of cart-mares by broken-down platers, as our English farmers try to do. You rarely or never see a cart-mare in Ireland, where our best hunters come from. Some weeks back I saw a most remarkable instance of breeding back. I went with a client to see with a view to purchase, some cart colts on a farm in Yorkshire ; one colt struck us as being exceptionally big and powerful, whilst another of the same age running with it, was better looking, but only half the size. When told they were both by the same horse, we expressed a wish to see the dams, and were shown a cob 14-3, that the farmer drove in his gig. This was the dam of the bouncing cart colt we had seen, big as an elephant, "a regular Jumbo," whilst the small colt was out of a sixteen hands black mare, as I said before, both by the same sire ; the thing was repeated in two colts a year younger. The only solution I could get was, the dam of the cob was a very big cart-mare, so her colts were evidently breeding back. If you mix heterogenous masses you will get uncertainty as your product. When private individuals buy from breeders they are often victimised. Our town people are in the country for a holiday, and imagine it a good opportunity to buy a horse first hand. The farmer has heard and knows that horses are sold at big prices. Why should he not get them as well as the dealer ? he very likely believes that the three-year-old out of Darling, by a nondescript horse covered with medals, will make as fine a horse as ever stepped ; all his faults and failings are attributed to want of grooming and trimming up. If Mr. So-and-so, the dealer, only had him, what he would make of him ! The probabilities are, if shown to a dealer and asked for his opinion, it would not be very flattering. In due course the new purchase is brought home, and you may be invited to look at it. You are then introduced to what often becomes a familiar acquaintance, and very likely before it terminates, both you and the owner will most heartily wish you had never seen the brute. Years gone by our best farmers bred or bought good young horses, rode them to hounds, and after making sold them to their landlords or the neighbouring gentry. But things have changed. Very few are in a position to do this now ; high price of land and rents, bad seasons and keen competition have forced them to devote their energies to the branches of their calling yielding a quicker and safer return. Breeding of the better class of light horses in England is declining. Good sires are scarce, and what are left incline more to the promiscuous type. When the owners of this class of animals are driven to sell to the dealers, the latter will not buy until the animals get to a proper age, and then for purposes for which they are adapted, and at reasonable prices. This brings us to our second class.

Dealers in Horses.

Horse-dealers are not looked upon with favour by the British public ; that there are many of their number arrant rogues and utterly devoid of principle any one with an intimate knowledge of them will not for a moment deny ; but to brand them all as such is grossly unjust. Considering the changeableness and uncertainty of the article they traffic in, I am forced to the conclusion

XUM

that many of them exhibit more straightforwardness and have more uprightness and fairness in the composition of their characters than many so-called gentlemen or business-men show when placed in similar positions. Some men possessing a fair and unsullied reputation in daily life and business, when a horse or a horse-dealer is concerned seem to lose all this, are unfair, and even dishonourable in many cases, and judge other people by their own standard. I hold, and have long held, that, as a class, dealers in horses are not fairly dealt with ; it is a case, no doubt, where the whole suffer for the wrong-doing of a portion. Let a man, who knows a horse well, go to a fair, buy six or seven horses in a day, bring them home, have a quiet look next morning, will they all be satisfactory? But let him go a step further, and retail them out to the average Manchester buyer, with his half-dozen visits, his trials in double and single-harness in his own conveyance, by the side of his old horse, in saddle, his wife's whims and fancies, likes and dislikes, his friend's opinion, his veterinary surgeon's examination, special warranties; add to this, risk of sickness, lameness, imperfections of temper, cost of keep, travelling expenses, wages, rent, taxes, annoyance, humbug, etc. The profit, if any, will it be a fair recompense for all his trouble and labour? I fear not, particularly if we judge from results as seen in actual life, for the majority of them are not able to pay their way and end in bankruptcy. A dealer is entitled to a profit on his good purchases that will cover loss on bad ones, with expenses; and if some of our buyers were driven into the open market, they would learn lessons that would make them more tolerant and reasonable, I believe.

A few years ago we had half-a-dozen respectable dealers in the town—where are they now? If a dealer's horse dies or goes lame, who cares or sympathises with him? but if a gentleman's new purchase dies or goes lame, that is a very different matter. Some one must hear about that, for surely it is the dealer's fault; he must bear the loss (as well as his own, which is often more serious). Arguments are used, logical and illogical, law is threatened ; should all fail, he is stigmatised as scoundrel and cheat, and never another horse to be bought from him for the period at least of one natural life, by either the suffering innocent or his friends, if he can prevent it.

Our third class is a large one. Their number is legion. People who are dead, or whose grandmother or great-grandmother, or fifty-second cousin is dead, or there has been a death in the family ; people having no further use —giving up keeping (till they begin again), going abroad, property of an officer ordered on foreign service, are some of the reasons given for selling worthless, worn-out, unsound animals, or unsuitable for the purpose for which they were bought by individuals of doubtful veracity, and it is astonishing the elasticity of some people's consciences when horses are concerned. Amateur dealers, people who buy a horse to make a pound or two, and as a recommendation to intending purchasers assure them they are not horse-dealers. No, perhaps not, but bigger rogues by far, nevertheless. Nothing sounds more priggish to me than when any one has a horse to sell, assuring people they are not dealers; in such cases, caution is the safest policy.

Gentlemen, though often anxious not to buy from dealers, prefer to sell to them ; they have done with the transaction then ; if the dealer is taken in it is his own look out. Most of the roguery in the selling of horses is in this third class and with screw dealers. No doubt much of the odium that should rest here is cast on the fair and honest dealer.

But we now come to the part of the subject with which we are most intimately associated—*The examination of horses as to soundness.* The pleasantest part, and at the same time often the most unpleasant part of our calling—breaking the monotony of every-day practice and round of case-seeing, with trips to far-off places and scenes : at times a pleasant duty, at

XUM

others a most thankless office—one demanding great discrimination, cool judgment, and thorough impartiality. No college training can efficiently equip a veterinary surgeon for the satisfactory discharge of this duty. For my own part, I would much sooner trust to the opinion of a practical judge of soundness, minus a college training, than the most scientific collegiate without the practical training.

A veterinary surgeon is often called upon to decide between absolute soundness and practical soundness, two widely different states. You will find dealers and experienced horsemen good judges of the one and strangely deficient in the other, the one being the outcome of experience, the other requiring in addition a scientific training, and until a veterinary surgeon is master of both, or so far master as fallible man can become, he is not a competent person to give an opinion on the soundness or unsoundness of a horse. You will all admit, I think, that the major portion of work performed by horses is done by those not absolutely sound; granting this, you must also admit that if we pass none, or permit our clients to buy none but absolutely sound animals, their purchases will be few and far between, or very young, and often, when made, useless animals, from other causes besides soundness, for few horses pass through to the seasoned stage without developing some unsoundness. A six-year-old may be absolutely sound, but the chances are he is either too lazy or bad-tempered to permit of his being useful in other respects; thus, if we are to be really of service to our clients, we ought to be able to say whether a horse having certain defects is still capable of satisfactorily doing the work for which he is required. Our certificates may state that a horse is unsound, but still, for all that, we think he will do the work our client requires him for, or that the said unsoundness will not interfere with his usefulness. Such a thing as passing an unsound horse as sound would not knowingly be done by any honest veterinary surgeon; but if there be a dishonest one, who has not self-respect sufficient, or regard for his profession, I blush for him, and am thankful for the law that can be used against him; and whilst we are sorry if any honourable member of our profession should ever suffer from this law, let us not forget that it is a useful instrument of terror to evil-doers. On the other hand, I am equally sure that many good, honest, practically sound animals have been rejected by us, unfairly so, I think. If a man is so nervous of consequences that he dare not pass a horse, I maintain he is not fit to follow that particular part of his calling; besides the injustice of the thing, our first duty is of course to our clients, but we also are surely honest enough to admit that we have no right to wrong the other party by rejecting a horse that does not merit that rejection. I am a firm believer in doing what I believe to be right, and bearing the consequences. If I candidly believed that an unsound horse would suit my client, and advised the purchase of the same knowing of the unsoundness, should after circumstances prove me to be wrong it would not trouble me to acknowledge my error in judgment. Have you never, on the other hand, seen horses you have rejected doing similar work for other people for years afterwards? A case that was brought to my notice only last week, in which an animal was rejected four years ago, but in spite of veterinary surgeon's unfavourable opinion as to fore-legs, was bought, and gave every satisfaction for that length of time; it was then sold the week after, condemned by another veterinary surgeon for spavin, when it was lame from tight shoeing, re-bought at a low price, and veterinary surgeons in general condemned as humbugs.

It is not only dealers but private horse-owners in and about Manchester who are becoming adverse to allowing a veterinary surgeon to examine a horse they may have on sale, even if they believe it to be sound; they say he is sure to

XUM

find something. Thus far we have spoken generally of the question of soundness and unsoundness. Before particularizing as to unsoundness we should note that it is necessary often not only to examine the horse, but also consider the other two parties concerned, the buyer and the seller. Is he examination for one of our own clients, whose character and requirements we are well acquainted with? For a party we know to be fond of law, then be careful to strictly observe the law, and no more, and let him reap the benefit of his unenviable disposition for Shylock's, "I verily hate." Should the seller's character or reputation be doubtful, be careful, but do not condemn the horse for the man, for even a rogue deserves justice, and you are not just if you condemn a horse on account of his owner. Now for particularizing; take first a general survey; note the class, appearance, and anything that may strike the eye. In examinations I have come to the conclusion that the truth of the old saying, "What cannot speak cannot lie," will only bear a literal interpretation: if it cannot speak a lie it may denote one. Our Irish friends, in particular, are so expert at cultivating the artificial growth of teeth that it is always safest to say, instead of a horse is such an age, that his mouth denotes such an age. Then, again, treatment with early and late foaling does materially interfere with the dentition, and we know short-horn cattle will have a full month at three and a half, whilst with rough Welsh or Irish it is five before they get it. Another matter with the teeth not often done, but under certain circumstances ought not to be overlooked, is the examination of the molars for irregularities or decay. A horse may and often has a five-year-old mouth when only four. And if only four years old his legs will not stand hard work on our roads and paved streets. The reference already made to the unwillingness of our clients to pay for a seasoned animal, or go to the necessary trouble and expense required to season their own, give rise to much of the so-called trouble of horse buyers. Horses in the country have an advantage over those in the towns, because often after overwork they get long rests out at grass, where their legs and feet are cooled and renewed. Bent legs, swollen joints, ossific deposits are often due to overwork on artificial roads before the tissues are set and hardened; I also hold that no horse should be called on to severely exert itself unless in hard condition. Ligaments, tendons, and muscles, are more liable to sprains when the animal is out of condition than when the horse is what we term "fit."

Lameness may be temporary and of trifling importance, or permanent, and every lame horse may not of necessity be rejected entirely; if caused by defective shoeing, or a slip, knock, or twist, it may only be transient.

Shoulder lameness, navicular disease, ringbone, hip joint, spinal, and some forms of hock lameness justify total rejection.

Supposing an animal to have certain defects which do not cause it to go lame at the time of examination, when are we justified in advising our clients to run the risk of purchasing such an animal? because we are constantly called upon to do this, whether we like it or not; and it is here where I think the Manchester veterinary surgeon has earned a notoriety in rejecting practically sound animals rather than passing unsound ones. In Ireland two-thirds of those rejected in Manchester as unsound would be passed as sound, and in other portions of the United Kingdom a large percentage of our rejects would be passed. In the matter of feet I have known a horse, where they have been allowed to grow long, a shoe lost, and one foot broken, to be rejected by a veterinary surgeon as having odd feet; as most of you will have noticed after a horse has been for some weeks at grass, the horn grown during this period has a ringy appearance: this has been condemned as produced by Laminitis; the smith's rasp

judiciously applied would have caused the same party very likely to praise them as the best of feet.

I should not reject a hunter with corns unless very bad, whilst in town horses they often seriously interfere with an animal's usefulness. Splint lameness, again, is generally only of a temporary character, though it may, even when not interfering with the tendons, prove a source of annoyance where hard roads have to be considered.

Sidebones require careful consideration. Whilst great numbers of cart-horses work well and go sound with them, there are others in which they increase in size and produce lameness : light horses affected with them I should decidedly reject.

In the hind leg the hock affords scope for great diversity of opinion. I may, perhaps, startle some of you when I tell you I believe more horses go sound with spavins than go unsound from them. Big and coarse hocks rarely wear unsound. Little round hocks, and where one is larger than the other, are to be regarded with more suspicion, though cases are not difficult to find where odd ones have proved a good pair.

Some members of the profession may broaden their views on the hock question and not in any way jeopardise their position. I call to mind two cases where I rejected hocks : the one has been a fire-engine horse for years, and the other carries a very hard rider in Sir Watkin's district—perfectly sound in spite of the severest strain.

Curbs depend on conformation ; hard, cool curbs on good-shaped hocks may be only eyesores. My opinion with regard to bog spavin and thoroughpin has been contrary to fact in many an instance. In three and four-year olds these may and often do disappear in later years, particularly if rested or fairly worked. I do not now regard them as incurable in all cases.

Sesamoiditis, too, has played me false both ways—it has yielded to treatment when I thought it incurable, and not yielded when I thought it ought.

Rheumatism might escape detection, though there is an appearance if the lameness be not present, not easily described, but recognisable to one who has treated such cases.

Shivering and spinal affections might escape the notice of a young practitioner once or twice, but not more I think.

The respiratory organs are often a tax upon us. Whistlers in a storm may not be heard, even when you are not hard of hearing ; and to be able to ride your own as well as see them ridden is not a disadvantage, particularly if the animal is fit to go. Riding schools are not fair places to test a high-couraged horse's wind in. Again, Whistling is not always constant, and if a horse does not make a noise when we examine him, and is proved to be a whistler afterwards, I should certainly maintain my position, particularly if there was no grunt ; or, on the other hand, a horse may grunt and still be sound in his wind.

Does Indigestion, Worms, or Diabetes constitute unsoundness ? Skin Diseases : I have had several cases lately where horses have broken out with ringworms and horse-pox (I know no other term for it) soon after examination, much to the annoyance of myself and client, but I cannot see how I could help it. One case, with an unclipped horse, directly he was clipped, showed five ringworms.

To pass a horse with heart disease would be an unpleasant matter, but might easily be done ; one thing I have noted in two cases lately under observation, and think worth remembering, is palor of the visible mucous membranes. Blemishes and vices may or may not constitute unsoundness. Broken knee or knees should always be noted, though not necessarily cause rejection. The detection of vices is more difficult, although I should without hesitation reject either a crib-biter or wind-sucker if I detected it. On the

XUM

other hand, I should as stoutly hold that a man might pass either of these without detecting them, and not be guilty of culpable negligence. It is always advisable to ask the question, "Is this animal a crib-biter or a wind-sucker?" and if the vendor answered in the negative, I should hold that as sufficient to exonerate us from blame. The worn or rounded outer margin of the upper incisors is not a positive indication of cribbing, as it may be produced in other ways, though it is highly suggestive.

When any doubt exists as to the soundness of the eyes, let me recommend the use of a pocket lens, and a light in a dark stable; by a very simple arrangement the light is thrown on to the posterior part of the ante-chamber, when cataract or any opacity of the lens is at once detected.

In testing or trying a horse in our examinations, we ought to be careful and (particularly so if likely to reject the animal) not to injure or increase lameness if present. It is quite enough to reject a man's horse without damaging it into the bargain.

In conclusion, gentlemen, whilst I frankly own to those who are anxious for knowledge that there is little or nothing new in this desultory paper, yet the united, publicly expressed, and confirmed views must tend to strengthen and give us confidence in expressing our opinions. "Whilst to err is human, and forgive, divine," be assured we shall, if long in practice, afford ocular demonstration of the first; let us hope our clients may possess the latter attribute, and unanimously exercise it towards us.

The subject was listened to with great interest, and its discussion post-poned until the next ordinary meeting.

JNO. B. WOLSTENHOLME, *Secretary.*

MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

THE forty-eighth meeting of members of the above Association took place on Friday, 26th ult., at the Stork Hotel, Birmingham; Captain Russell, President of the Association, in the chair. There were also present, members: Messrs. F. Blakeway (Treasurer), R. C. Trigger (Hon. Secretary), L. C. Tipper, A. Hodgkins, O. Hills, Geo. Smith, F. W. Wragg, H. D. Pritchard, H. Olver, H. M. Stanley, F. W. Barling, D. Aiken, Augustus Bowles, Robert H. Cartwright, A. C. Robertson, William Carless, Edward Meek, A. Over, H. J. Cartwright, Thomas Greaves, Harry B. Lutterworth, H. R. Perrins, A. B. Proctor, Edward Stanley, E. Beddard, W. G. Barling;—visitors: Messrs. J. S. Barber, Rugby; Thos. Horton, Birmingham; Peter Taylor, Manchester; and H. Turner. The minutes of last meeting having been read and confirmed, the treasurer read his annual statement of accounts, which showed a balance in favour of the Association of £128 os. 8d. The following gentlemen were then elected members of the Association: Mr. R. Verney, of Stratford-on-Avon, and Mr. J. S. Barber, of Rugby.

The meeting then proceeded to the election of officers for the ensuing year. Mr. William Carless, of Stafford, was elected President, Mr. L. C. Tipper was elected Secretary, Mr. Blakeway re-elected Treasurer, and Messrs. H. Pritchard (Wolverhampton), W. G. Barling (Ross), and Captain Russell (the retiring president), Vice-presidents. After some conversation it was resolved that Mr. Olver be elected to represent the Association as a candidate at the next election for members of the Council. A discussion then took place as to the right of this society to elect a Life Governor to represent them on the Veterinary Benevolent and Defence Association (in place of Mr. Carter, deceased), without payment of further subscription, and as to whether the term "Life Governor" representing a society applied to the life of the individual selected, or to the life or existence of the society. Mr. Greaves, Treasurer

of the Benevolent and Defence Association, was clearly of opinion that rule applied to the life of gentlemen selected only; on the other hand, Mr. Peter Taylor, president of the same association, believed that the Life Governorship appertained to the life or existence of the association paying the subscription.

The latter gentleman having kindly announced that a meeting of the Benevolent and Defence Association should shortly be held, and the matter be definitely settled,

It was resolved that the further consideration of the matter be deferred to next meeting.

Fleming Testimonial Fund—£46 2s. 0d. has been subscribed by members of this Association, and kindly collected by Mr. E. Stanley, of Warwick.

The discussion on Mr. Over's paper on soundness in horses was then resumed.

Mr. OLVER said, so long as by law soundness meant perfection, they could never say that any horse was, in a legal sense, actually sound. For himself, in writing out certificates, he generally said if the horse was to all intents and purposes sound, with the exception of some slight defect which would not be likely to interfere in any way with its capabilities of performing the work it was required for, that the horse was sound with the exception of such and such defect which might or might not interfere with its practical usefulness.

Mr. BLAKEWAY said that they might discuss the question from now till next year without coming to any definite decision upon it. Their perplexity on the subject was not to be wondered at, when they saw some of the most learned legal authorities in the land differ as much as they did on the question of what constituted soundness in horses. Judges on the bench insisted that crib-biting was not unsoundness, but only a habit. Now, Mr. Olver said everything that impeded usefulness in a horse was unsoundness; therefore, on that question he and the judges were at issue. Then, as to the splints. If a veterinary surgeon passed a horse with splints without qualifying his certificate—which was frequently the case—although he might believe that such defect would not interfere with the working capabilities of the horse, some client might come to him at any moment and say the horse was unsound, and the surgeon ought not to have passed him. It was a very vexed question to decide upon. He thought the best thing for them to do was to qualify their certificates and give their decision as their opinion only.

Mr. GREAVES also believed that it was inevitable that a great number of different opinions should exist on the question. However experienced a man might be, he could not help occasionally differing with other experts as to whether a horse was sound or not. He was intimately acquainted with one of the first men in Manchester; that was a man who had a greater number of horses brought him to examine than any other man in the town. Another gentleman he knew in Liverpool, who had also had very great experience in the same direction, and he had heard both of them say, "I have rejected many and many a horse I had no business to reject; I rejected them because perhaps they had enlarged hocks. I have watched some of the horses thus rejected in the hunting-field season after season, and they appeared to be as sound as possible." Now, he (the speaker) thought veterinary surgeons might do injury to their clients by being over-particular. They might prevent a client becoming possessed of a valuable, sound horse by rejecting a horse that was quite capable of doing all the work that might to be required of it. It was quite necessary that they should take into account the age of the horse, and whether he was thoroughly seasoned or not, for at one period it would be dangerous to pass a horse with defects, which at other periods would

XUM

be of little or no consequence. He was of the same opinion as the other speakers, as to advisability of qualifying their certificates; such a horse they might say was sound, with the exception of a splint or curb, which might, or might not interfere with his work. If they thus qualified their certificates they could not do wrong.

Mr. H. J. CARTWRIGHT said, if a horse had splints he should always make an observation to that effect. He would never pass a horse with side-bones as a sound horse, or a crib-biter without drawing attention, and remarking on the defect. If a horse had enlarged hocks he should pass him without observation as sound, if enlargement did not interfere with his action. With regard to the present state of the law, he thought it would be very difficult to alter it so as to meet their case. He did not see how it was to be done.

Mr. PERRINS asked Mr. Cartwright what he would do in case a client came to him and said, "I want you to tell me whether this horse is sound or unsound. I am sufficient judge of its merits and capabilities for work. I only ask for a professional opinion as to its complete soundness, or otherwise."

Mr. CARTWRIGHT said in that case he should say sound or unsound as the case might be. If unsound he should state nature of the defect or defects, and if asked should give his opinion as to whether the defects would interfere with the horse's usefulness.

Mr. PERRINS, continuing his remarks, said there was one question which deserved attention even more, perhaps, than that as to the unsoundness of horses, viz., professional charges for examination. He had heard that some veterinary surgeons examined horses for five shillings. As such great responsibility was laid on the shoulders of veterinary surgeons, they ought to be adequately compensated for the risks they ran. (Hear, hear.)

Mr. PETER TAYLOR said he was quite of opinion that a veterinary surgeon had a right to protect his profession. With regard to the definition of soundness, he understood it to be "free from all disease." Clients brought horses to them which perhaps they had never seen before, and they were expected to examine them, and give an opinion as to their soundness, or otherwise, and give a certificate off hand as to their condition. On that certificate they were held responsible. If they passed a splint, however trifling, or enlargement of the hocks—which might be the product of nature—they were held responsible for passing an unsound horse. Unfortunately for the profession, they could not tell whether a horse would prove a good one or not. They could not state whether whistling, for instance, not serious in itself, might not develop into something very serious. They were placed in a very peculiar position, and as a practical man he considered that their best safeguard was to protect their own reputation and themselves, and on all occasions give themselves the benefit of the doubt. They would find in following their profession that clients were not particular whose feelings and whose reputation they injured, and it was quite possible for a veterinary surgeon by one false move to lose in a week a reputation which had taken twenty or thirty years to obtain.

Mr. STANLEY, of Warwick, said the difficulty was that men often brought horses, and wanted certificates not of absolute soundness, but of practical soundness, which was to all intents and purposes equivalent. If, however, the horse did not turn out well, and the matter went into a court of law, learned counsel would say, "What did you mean by giving a certificate with an unsound horse?" They wanted the power to say to their clients, "This horse is suffering from splints, or spavin, or what not," and if the client wanted an opinion as to the value of the horse to say, "Well, if it were me, I would buy him, because I do not think such and such complaint will interfere with his usefulness." Thus, if a horse was brought to them it would

be better to send to their clients two documents—one a formal certificate as required by law, and the other an expression of opinion as to the practical value of the horse. The clients would in that way have the benefit of a professional opinion with regard to the horse as well as the formal certificate. There had been a good deal said about splints; he always thought splints were not unsoundness unless they caused lameness or interfered with the usefulness of the animal.

Mr. F. W. WRAGG said if he saw a horse with splints he should reject him as unsound, as they were liable to make the animal go lame at any time.

Mr. GREAVES said it depended on what sort of work the horse had to do. If he was put to harness-work it was ten to one against him going lame at all.

Mr. HENRY MEEK agreed with the suggestion that it would be well to send with their certificates a written opinion as to whether such defects as the horses might possess were likely to interfere with their usefulness.

The CHAIRMAN said they had listened to a very instructive and interesting debate; but he must confess he should have liked to hear a few remarks about grunting. They were told by Professor Walley that grunting was not unsoundness. He (the speaker) was of opinion that grunting was abnormal, and anything abnormal must be unsoundness. In the matter of giving certificates, it behoved them to take a common sense course, keep their tempers, and act with decision.

The discussion then terminated, a vote of thanks being passed to Mr. Over for his paper. A vote of thanks was also passed to the retiring officers for their services during the past year; and it was decided to hold the next meeting of the Association at Stafford.

In the evening most of the gentlemen present dined together at the hotel.

Mr. Dale, of Coventry, and Mr. Carless, of Worcester, wrote, explaining their inability to attend the meeting.

ROBERT C. TRIGGER, *Hon. Sec.*

LINCOLNSHIRE VETERINARY MEDICAL SOCIETY.

NOTES of meeting held on Thursday, the 18th January, 1883, at the Albion Hotel, Lincoln, for the purpose of forming the above Society. *Present*—Captain Russell, Grantham; Messrs. W. A. Field, Brigg; F. A. Holmes, Hemswell; J. Sant, H. Howse, W. S. Carless, Lincoln; G. Whitworth, Grantham; H. Brooks, Fulbeck; F. Spencer, Wragby; J. W. Gresswell, Jos. Mackinder, Peterboro'; J. Brown, Navenby; T. C. Smith, Market Rasen.

Captain Russell was voted to the chair. He said: We have met again for the purpose of forming a Veterinary Medical Society for Lincolnshire. It was unanimously resolved at our last meeting that we would do so, and with that view I sent out 102 circulars such as you all have received. I have only received replies from one or two individuals. I have a letter from Mr. Hoole, of Sleaford, who, though unable to be present, wishes to be nominated a member. Mr. Hardy also writes, saying that he will be here later on. The Committee—Mr. Howse, Mr. Whitworth, and myself—have read the rules of the Midland Counties Veterinary Medical Association, and have come to the conclusion that this Society could not do better than adopt those rules, with a few minor alterations. That is all I have to remark to you at present until we get further into the work. The first thing to do will be to nominate a President for the ensuing year, and after that to appoint Vice-presidents, also a Secretary and a Treasurer, and then to read over the rules and correct them as you would suggest, and afterwards to discuss the Veterinary Surgeons

Bill of 1881. I have an important communication to make to you; but I had better bring it in in its proper place.

Mr. MACKINDER: How many Vice-presidents is it proposed to have?

The CHAIRMAN: Three; though it will depend a great deal on the number of subscribers. The Midland Counties Association consists of a President, three Vice-presidents, a Secretary, Treasurer, and members.

Mr. GRESSWELL: I wish to say I have a letter from Mr. Runciman, of Market Deeping, saying he would have been pleased to attend, but he is suffering from a violent cold.

The CHAIRMAN: I may add that I sent a copy of this circular to every veterinary surgeon upon the register in Lincolnshire, the majority in Leicestershire and Nottinghamshire, and the whole in Northamptonshire—in all, 102.

Mr. MACKINDER: On behalf of my father, I might say he would have been glad to be here, but both of us could not attend.

The CHAIRMAN: The first thing to do is to nominate and elect a President for the ensuing year.

Mr. H. HOWSE: I think we should find no one so able to occupy that position as Captain Russell. He knows most of the routine and the business, I dare say better than any one of us, and is altogether well adapted for the office, if he will accept it. I have, therefore, great pleasure in proposing that Captain Russell be elected President for the ensuing year.

Mr. BROOKS: I second the proposition.

The motion was put and carried unanimously.

Captain RUSSELL: I can assure you I accept with pleasure the position of President of the Lincolnshire Veterinary Medical Society, and I will do my best during my year of office to carry on the work and give you satisfaction. I was rather in hopes that you would have nominated a man of the town, seeing that the first meeting is held here; but as you have thought fit to nominate me, I am only too glad to accept office, and shall be pleased to carry out the duties as far as I am able. Will some one propose three Vice-presidents?

Mr. MACKINDER: I propose Mr. Howse as one.

Mr. WHITWORTH: I second.

Mr. FIELD: I propose Mr. Brooks.

Mr. GRESSWELL: I beg to second.

Mr HOWSE: I think we should have some one living at a distance.

Mr. BROWN: I propose Mr. Mackinder.

Mr. HOWSE: I second that proposition.

The CHAIRMAN: I think we may consider these three gentlemen elected.

Mr. WHITWORTH: I propose Mr. Carless as Secretary.

Mr. MACKINDER: I propose Mr. Carless as Secretary and Treasurer.

The CHAIRMAN: In most Associations the President has the right to nominate a Secretary; but I do not see why Mr. Carless, if he will undertake the duties, should not be both Secretary and Treasurer.

Mr. CARLESS: I shall be pleased to do what I can to help forward the Society.

The CHAIRMAN: Then Mr. Carless is appointed to both offices for the ensuing year. Eventually, if we become a strong Society, we may have to appoint separate officers.

The CHAIRMAN then proceeded to read the rules which had been considered by the Committee. Regarding one Rule, he said: This rule requires a certain amount of discussion. It has been proposed that there shall be three regular meetings in the course of each year. It is for you to say whether that shall be so.

Mr. MACKINDER : I think once in three months is not too often to meet, especially if we are going to meet in different districts in the county.

The CHAIRMAN : It has been found in the Midland Association that we can get better musters by having three meetings instead of four.

Mr. GRESSWELL : I think three meetings will be sufficient, as we shall have a Congress, perhaps, during the year.

The CHAIRMAN : I will put it to the meeting.

The question was put, and it was resolved that there should be three regular meetings held in the course of each year.

The CHAIRMAN : I want to remind you that one of the duties of this Association is to make as good a fight as possible for some individuals for election on the Council, and it is customary in the other Associations in the country to join together and endeavour to elect either their individual members or some individual member of another Society. Whether we should consider ourselves strong enough to put forward a member of our own Society for election on the Council, requires consideration ; but now, I suppose, you will combine with the other Associations with the view of causing the election of any person brought forward that we approve of. For instance, we should join with the Midland, or the Yorkshire, Lancashire, and Eastern Counties, and endeavour to push their candidate, if they had one, and ask them to push ours if we had one. As the meeting takes place on the first Monday in May, and notice of election on the Council requires to be given three weeks before that day, it is a question whether our first meeting should not take place in March, so as to decide whether we bring forward a man of our own, or back up the other Associations in pushing their man. Of course, the object, as you all know, is that so many London men were getting into the Council, that it was necessary to make a stand, and fight to push in country men. Last year we were successful.

Mr. MACKINDER : We should have more country men in the Council. We comprise more members, and we should have our interests looked after. At one time it used to be all Londoners.

Mr. HOWSE : Who were not up in the hundred and one things that occur in the country.

Mr. MACKINDER : In fact, the London vets. consider the country practitioners a set of boobies.

Mr. HOWSE : That is the same with Londoners generally.

The CHAIRMAN : I would suggest that it be the second Thursday in March.

Mr. MACKINDER : How would February suit? With most of us March is a rather busy month, owing to its being the mare-foaling season. With me it is a very busy month.

Mr. SANT : We should meet before April Fair.

The CHAIRMAN : My reason for mentioning March is that we want to know what the other Associations are going to do. Their meetings are held in the first week in March or the last week in February when they elect their candidates.

Mr. MACKINDER : I am ready to give way. When does the Midland meet?

The CHAIRMAN : January 25th.

Mr. MACKINDER : We should know what they were doing if we had a meeting in February.

The CHAIRMAN : I don't know about the others. I think you will decide to day that the Secretary be empowered to unite with the other Associations in backing their candidate. If the first meeting of the Association is fixed for March we should have another meeting, but if for February it would be almost too soon from now.

Mr. HOWSE : There is no particular benefit in having a meeting so quickly.

Mr. GRESSWELL : Perhaps we might enrol more members.

The CHAIRMAN : I don't suppose we shall bring forward a candidate this year. We should rather obtain the sympathy of other Associations by backing their candidate. Shall we say the last Thursday in February?

Mr. HOWSE : As far as I am concerned it makes no difference.

The CHAIRMAN : It will be the last Thursday in February, June, and October. Will that meet your wishes?

The CHAIRMAN then read the remaining rules, and said : Those are the rules ; it is now for you to decide whether they shall be adopted.

Mr. MACKINDER : Will a copy be sent to the members?

The CHAIRMAN : If they are passed, the Secretary will have power to get them printed, and at the next meeting a copy will be presented to the members.

Mr. MACKINDER : I think every one would like to have a copy.

TheCHAIRMAN : Certainly, every one can have a copy on applying for it. Perhaps those who wish to join the Society will sign their names on the paper.

Mr. SANT : Will you have a list of the members printed?

The CHAIRMAN : I think it would not be a bad plan to print a list of the members at the formation, certainly. I should like to explain another little matter. It is customary in the Associations for the various minutes and matters brought forward to be taken down by a shorthand writer, because the VETERINARY JOURNAL is now the medium of informing the profession what is done by the Associations, and also to assist the Secretary. It was found impossible for the Secretary to take down sufficient notes to enable the profession through their periodical to understand what had taken place, and therefore rules have been framed to enable the Secretary to employ a shorthand writer for that purpose, and I should like your authority to continue in that way and employ a shorthand writer. It is your wish that a shorthand writer be employed.

The rules were then adopted, and

The CHAIRMAN said : We can consider that we have formed ourselves into a Society, and that these are the rules of the Society, and the Secretary is empowered to get them printed ; and you agree to pay a sovereign as a donation on entrance, and half-a-sovereign per annum henceforth. If it is convenient, you will, perhaps, give the Secretary your sovereign, or send it to him in the next day or two. Of course, expenses have to be incurred. These rules will have to be printed ; and I hope, in time, such will be the success of the Society, that we may be able to do as others do, provide special instruments, not much used by members, for their use, and carry on the work in the successful manner other Societies do. I shall be glad to receive the names of several distinguished practitioners as Honorary Associates, and I am sure we shall always do our best to encourage local practitioners to join the Society. We cannot get on without donations, and it must be our endeavour to ask every practitioner in the neighbourhood that is worthy of joining an Association of this sort to come among us. Where shall we have the next meeting? It will be hardly worth while to have a meeting on the last Thursday in February, so that the next meeting will be on the last Thursday in June.

Mr. MACKINDER : Supposing we meet at Grantham.

The CHAIRMAN : We will say the next meeting will be held at Grantham.

YORKSHIRE VETERINARY MEDICAL SOCIETY.

THE annual meeting and dinner were held at the Queen's Hotel, Leeds, on Friday, the 9th February, the President, Mr. J. M. Axe, in the chair; the following members were also present, viz., Messrs. T. Greaves, James Freeman, J. S. Carter, Joseph Freeman, Peter Walker, J. H. Ferguson, Parlane Walker, George Carter, P. Deighton, George Hardie, R. L. Robertson, George Bowman, F. C. Toop, G. Whitehead, W. F. Greenhalgh, H. Cooper, M. E. Naylor, J. E. Scriven, B. Smith, and the Secretary.

Messrs. W. H. Coates, London; C. W. Elam, Liverpool; Thomas Briggs, Bury; and E. Faulkner, Manchester, were present as visitors.

Apologies for non-attendance were received from Professors Williams and J. W. Axe, Messrs. E. C. Dray, J. W. Anderton, G. Schofield, J. Tatam, W. Lodge, H. Suarry, J. Bale, D. Sowerby, S. F. Fallding, J. L. Faulkner, John Fryer, and F. Danby, Messrs. E. T. Cheesman, 5th Dragoon Guards; R. H. Ringe, 11th Hussars, and a number of Lancashire friends.

The minutes of the previous meeting were read and confirmed.

Mr. BROUGHTON proposed, and Mr. CARTER seconded, the election of Mr. Briggs, Halifax. Carried unanimously.

Mr. PETER WALKER proposed, and Mr. NAYLOR seconded, the election of Mr. Henry Carter, Bradford. Carried unanimously.

The SECRETARY nominated Mr. Henry Fletcher, Sheffield, for membership.

The SECRETARY proposed, and Mr. PETER WALKER seconded, a vote of thanks be given to Mr. J. W. Anderton for his services in the Council during his term of office, now expiring, and that he be requested to offer himself for re-election.

Should Mr. Anderton decline it was resolved to nominate Mr. Broughton.

The SECRETARY introduced the subject of the National Veterinary Medical Association, and invited the members to give the movement a hearty support. Messrs. GREAVES and BRIGGS also urged the members to support the Association.

The PRESIDENT read the inaugural address as follows:—

Gentlemen,—It is my first duty to thank you for the honour you have conferred upon me in electing me to fill the presidential chair of the Yorkshire Veterinary Medical Society during the present year. It is hardly necessary for me to say how few of those qualities I possess which fit a man to direct the affairs of an association of this description, still less need I remind you how abortive must be any attempt of mine to emulate the high accomplishments and business attainments which have distinguished our late president and his predecessors, and which in the past have contributed so much to the interest of our body and the good of the profession. I cannot claim to possess either the power to initiate, or the confidence to guide the necessary movements which these days of rapid progress and scientific growth demand at the hands of those who accept the responsibilities of office. It therefore becomes me best to proclaim my weakness, and to make known how much I must rely on your individual and united support for the success of my year of office. It is not enough, I know, to possess the will to achieve success, but it needs likewise to find the way. The latter merit, it has often been said, is the necessary outcome of the former, but I fear, in my case at least, this very encouraging proposition will fail me without the assistance of your valuable advice, and the generous indulgence and forbearance which I know you are well capable of extending to your colleagues in the conduct of our affairs. I may be permitted to say that never in the whole history of our profession was there a time when greater vigilance was needed in the discharge of our political and scientific responsibilities than the present. In the imme-

diate past a great and important constitutional change has been effected, mainly by that system of co-operation and mutual help of which veterinary medical associations are the spirit and embodiment. The Veterinary Surgeons Act, which our senators have recently procured for us, is the greatest and most effective triumph of our existence as a corporation, and a noble stimulus to even greater achievements in the future. It is not a little encouraging to know that the title which we have so long and patiently shared with the ignorant and dissolute, is now to pass into our hands, and to become the exclusive right of the profession. It cannot, however, be forgotten that although a great want has been supplied, and a great dignity conferred upon the title by which we are now distinguished, there has, at the same time, been imposed upon us a heavy and necessarily a long-abiding burden. Vested interests have in our case, as in many others, asserted their right to protection, and the Legislature has seen fit to demand of us concessions, which for the time must seriously detract from the honour and distinction which we have sought and obtained for our professional title. That the qualified practitioner should be distinguished from the unqualified is no less in the interest of the public than ourselves, and having regard to the super-excellence of our live stock over that of other nations, and the ever-growing facilities for the dissemination of diseases, both home and foreign, the withholding of State aid so long and persistently cannot surely be regarded otherwise than culpable negligence, both of our profession and the best interests of the country. Gentlemen, I would *here* remind you that although our title has been protected, empiricism still remains unmolested, and under the title of farrier or other evasive descriptions, it is still legitimate for the pretender to share in the emoluments of our calling. We have not annihilated quackery, but merely weakened its pretensions. While, then, we value at its real worth the distinction just secured to us, let us not rest satisfied, but with redoubled energy seek to further disarm and illegalise the charlatan, and acquire for ourselves the exclusive right to practise veterinary medicine. I believe that up to the present time over one thousand persons have claimed to become registered veterinary surgeons. Amongst them are men of undoubted probity and honour, well versed in the practice of the profession, and whose social position is not inferior to our own ; but I fear there are still more whose personal and professional qualities are, to say the least, inexcusably pernicious, if not actually demoralising. It is to this latter class that I would ask your attention in the immediate future, and solicit your aid in an endeavour to exclude them from the privileges of registration. Gentlemen, while we give the political side of our duties its due share of attention, do not let us forget the chief object of our service, namely, the science and art of comparative medicine. In this direction there is much to be done, and I trust the present session may be rich in useful work and fruitful of good and lasting results to ourselves and our profession.

Mr. JAMES FREEMAN proposed, and Mr. JOSEPH CARTER seconded, a unanimous vote of thanks to the President for his inaugural address. Carried unanimously.

At the dinner the usual loyal and patriotic toasts were proposed and duly acknowledged, followed by a number of veterinary toasts, and an enjoyable evening was spent by all present.

CENTRAL VETERINARY MEDICAL SOCIETY.

A MEETING of this Society was held on the 18th of January, at 10, Red Lion Square ; the President, Mr. J. Woodger, in the chair. The following Fellows were also present, Messrs. H. K. Shaw, F. W. Wragg, J. Mosedale, C. Sheather, A. Broad, T. Burrell, G. R. Dudgeon, H. J. Hancock, J. Rowe, A.

Charles, T. Chesterman, F. G. Samson, G. Gray, W. Hunting. A. B. Daniel, E. M. Davy, and H. W. Caton.

Amputation of Penis.

Mr. GRAY exhibited a portion of a horse's penis, about six inches in length which he had amputated. The horse had suffered an injury about three months previously, from getting fixed over the chains, and had lost the power of retracting the penis, the extremity of which had become much swollen. The part of the operation which alone needed much care was the securing the arteries by ligature. The patient appeared fit to work in a fortnight; but two days after that time Tetanus set in, and a most severe attack of the malady was experienced. Recovery occurred, however, in about five weeks, except that a little stiffness still remained in the hind quarters.

Mr. DANIEL said he assisted in the operation, and suggested that, in order to obviate the trouble so frequently arising in these cases from retraction of the extremity of the urethra during cicatrisation, about three inches of the muscular portion should be left in advance of the division. The only arteries he found it necessary to ligature were the superior and two lateral. The attack of Tetanus was, he said, a very acute one, as severe as he had ever witnessed. By the aid of seven or eight men, nitrate of amyl was administered one night when the paroxysms were most severe, and was subsequently continued at these times, the relief from spasm and pain being most distinct.

Mr. SHEATHER had on two occasions amputated portions of the penis, and had found no difficulty arise from retention of urine through this contraction of the urethral orifice; he adopted the plan of splitting the exposed end of the urethra for an inch or so, and applying an irritant dressing, as turpentine and oil, to retard the adhesive healing action. With regard to nitrate of amyl, he had used it in one case of Tetanus, and found it procured sufficient relief from spasm to allow of the patient feeding, though in about an hour and a half the muscular rigidity returned, but after repeated administration of the drug the horse recovered.

Mr. WOODGER referred to two cases in which his father had operated upon the penis for diseased growths; in both, constriction of the divided end of the urethra occurred, occasioning retention of urine, but only after long intervals—in one case fifteen months after the operation, in the other eighteen months. The actual cautery was employed to arrest the hæmorrhage.

Endocarditis—Ruptured Heart.

Mr. BROAD brought before the meeting the heart of a bay van horse. It showed much disease of the mitral valves, and a rupture of the right auricular wall. The mitral valves were much thickened, had, in fact, quite lost their membranous character, and a cloudy inflammatory condition of the endocardium was seen extending into the left auricle: here was a pale fibrinous clot entangled in the muscular bands. The endocardium of the left ventricle was discoloured in patches; the heart was quite empty, the pericardial cavity being found full of clotted blood. The weight of the organ, when freed from pericardium and all adjacent lung tissue, was seventeen pounds and a quarter. The pulmonary artery and its branches were free from clots. The first attack of Endocarditis occurred on the 2nd October, the horse being seized with pain while at work; he was brought home in a state of great distress. After three weeks' rest and treatment, he again continued at work for about twenty days, when a similar seizure was experienced; the animal suddenly stopped, and could not be induced to move; he laboured in breathing, and bled from the nostrils; the prominent symptoms, for the

XUM

first three days, were an extremely rapid pulse, 120 to 100, but regular; hurried breathing, and occasional epistaxis. The quick respiration soon abated, but the heart was excited in action for many days; he was again in the stable about three weeks, and was then sent out, but had not been worked much more than a fortnight when an attack of the same kind occurred, and he was brought home in a similar state of distress; he soon rallied, and as usual, soon after each attack, fed well, and was in good spirits, the only unfavourable symptom being an irritable state of the heart, the pulse remaining at 48 or 46. He was being exercised in the street on the 13th January, when he was observed to stagger; he was at once brought into the yard, but dropped and died in about one minute.

Mr. ROWE quoted a case of heart disease, the pulsations being most irregularly intermittent, the respirations forty in the minute. It appeared, he thought, from cases he had observed, that epistaxis with distress was a frequent consequence of diseased heart.

Mr. WRAGG said it was his experience that a great deal of heart disease existed, especially among heavy horses; he had seen several cases of rupture, nearly all of them occurring in the right auricle. He referred to a case under his notice a few days before; the horse died from cardiac disease, and a clot was found filling up both cavities on each side of the heart, and extending some distance into the posterior aorta.

Mr. DANIEL said he had closely examined the specimen, and had no doubt that it was an *ante-mortem* rupture, and not the result of any clumsiness in extraction; the membrane of the right auricle was cloudy in appearance, and the appearance of the ruptured muscle was characteristic.

Mr. GRAY had met with several cases of disease of the heart, and thought it was more common than was generally supposed. About a week ago he was called to see a horse, which was, to all appearance, in perfect health, but which dropped exhausted when made to draw a load; the pulse was extremely irregular. In another case the horse frequently fell when working on the land, but went very well upon the road.

Mr. BROAD mentioned the case of another horse he had attended, in which the symptoms were different to those in the case he first related; the horse suddenly came to a standstill, and was attacked with epistaxis, but when brought home, the pulse was not found to be so quick, about sixty, though extremely irregular and intermittent.

Mr. WRAGG said he knew a horse that had been at work regularly for about six years, though he had intermittent pulse the whole time.

Mr. BURRELL drew attention to the fact that it was known that a horse would continue at work for an indefinite period with intermittency of pulse, actual disease of the heart not being necessarily indicated; but he said he had never known a horse which suffered from an irregularly intermittent pulse to be capable of hard work. He referred to jugular pulsation as one symptom of heart mischief.

Mr. WOODGER said it was his opinion that much heart affection in horses existed unsuspected. He had seen some attacked with palpitation while at work; in others the attack had happened in the stable; one horse in particular, which had been hunted many times, had a fatal attack at last while in the stall. He regretted that veterinary surgeons had not such good opportunities of diagnosing cardiac ailments as human practitioners had.

Mr. WOODGER then read his essay on Glanders-Farcy, and its cause.

Glanders-Farcy and its Cause.

There not being any other paper for this evening, I propose making a few remarks upon the cause of Glanders-Farcy.

I have in this paper confined my remarks almost entirely to the practical part of the subject; our secretary (Mr. Alfred Broad) having so ably dealt with the subject of infection, in his paper read before this Society last session, particularly with regard to the different theories, it is needless for me to go over that ground again.

Some eight or ten years back, I read a paper at this Society upon Farcy and Glanders; since that time I have seen so many outbreaks of this disease, that I am not ashamed, but rather pleased, to confess that with my greater experience, and with making searching enquiry into the cause of each outbreak that has come under my notice, my view of the cause has been considerably altered, and I am pleased at having this opportunity of making that statement.

I am sure that every one here will agree with me that Farcy and Glanders are one and the same disease, presenting different forms of manifestation or symptoms. This, as you are all aware, has been proved by inoculation, and in one's daily practice it is most common to find a horse with Glanders give its neighbour Farcy, and *vice versâ;* but I may, in my remarks, for reasons I shall give, have to speak of each form of the disease separately.

The causes of Glanders-Farcy, as given by some writers upon this disease, and believed in by some few other persons, are debility (produced either by bad food, hard work, or both combined), bad drainage and ventilation; any disease, operation, or, in fact, anything which produces debility; and contagion.

In the first class of these so-called causes—that is, the generation of the disease otherwise than by contagion—there are one or two matters to be seriously thought of before we ought to arrive at such a conclusion: the period of incubation, the source from which the disease might have been contracted, and, lastly, the possibility of producing it except by contagion.

The period of incubation is most uncertain; in some instances symptoms present themselves in a few days, in others not for many months, and in some instances symptoms appear and, under generous treatment, disappear for months, and even years, and then appear again; the latter are the so-called "cured" cases.

Then, has there been no source from which the animals could have become infected or contaminated? In some instances it is most difficult to find the source of infection; in others it is most easy. As an instance, some two years back I was requested by a firm to meet their veterinary surgeon in consultation respecting a valuable cart-horse they had. Upon examination of the animal, I gave my opinion that it had chronic Glanders of very long standing; and I was led to this conclusion from the state of the Schneiderian membrane, where there were numbers of scars of previous ulceration, with the other usual symptoms. This animal had been standing with the other horses up to a day or two previous to my visit. I was informed that the loss in this stable had been more than ten per cent. per annum from this disease, and it was attributed to bad drainage. I differed from that theory, and expressed my opinion that this animal had done much of, if not all, the mischief of late. Since the slaughter of this horse, I am informed the loss in the stable from Glanders-Farcy has been very slight.

I could relate many instances where various diseases have terminated in Glanders-Farcy; but where an animal with the disease in a chronic form (as in the case just related) has been spreading it.

An animal may have the germs of the disease in its system but remaining dormant until some disturbance, produced either by illness, injury, or operation, may bring them into vitality or rather activity. So that many horses supposed to generate the disease really do not do so, they having the germs in the system inactive until some disturbance occurs.

XUM

Then is it possible to produce Glanders-Farcy other than by contagion? I never heard but one gentleman in our profession say he could, and by large doses of aloes. Now it so happens I saw a horse to which by accident 12 drachms of aloes had been given; this produced excessive purgation. I was sent for, and found purgation very great, enlargement of one sub-maxillary gland, and discharge from both nostrils, the Schneiderian membrane on the same side as the enlarged gland having the appearance of blisters. I at first thought it a case of Glanders, but after a more careful examination of the membrane, felt sure it was not. The horse perfectly recovered in a few days; possibly this gentleman who stated he could produce it with aloes had a similar case to mine, and mistook it for Glanders.

I am fully convinced that the sole cause of Glanders-Farcy is from contagion. It may be difficult and in some cases impossible to find the source whence the animal obtained the germs of the disease, but when we consider how easily they are carried about, as I shall show further on, it is not to be wondered at that we cannot always find out the source.

Debility, other diseases, operations, bad feeding, etc., may be predisposing causes, and predisposing causes only.

In many cases where debility is supposed to terminate in Glanders-Farcy, is it not the disease of Glanders-Farcy which is producing the so-called debility?

It has been my lot to see many cases of Anæmia, which have been under treatment for days or weeks, when suddenly symptoms of Glanders-Farcy appeared. Some of these horses have been destroyed at the first decided symptom, and upon making a *post-mortem* examination the lungs have been found to be extensively studded with miliary tubercles, showing the disease had existed for a long time, and was the actual cause of the Anæmia.

If there were any doubts about its being produced other than by contagion it is a most dangerous theory to teach the non-professional; for it makes the persons about such horses extremely careless of spreading the disease.

That Glanders-Farcy is contagious, no one doubts; that it is infectious many dispute; but I do not intend making any remarks on this point, except to state that I believe it to be both. As I said before, no one disputes its being contagious; the contagion of Glanders is in the discharge from the nose, of Farcy in the discharge from the ulcers or "buds."

The discharge from the nose in Glanders is sometimes very slight, in fact, only an occasional drop of pale amber-coloured, sticky-fluid, in many cases adhering to the alæ of the nostril; in others it is more or less copious, having more or less mucus; when this is the case it does not stick to the nose to the same extent. Now it has occurred to me, that in those cases where the discharge has been copious, the other horses in contact have not so frequently caught the disease. This may be from two reasons, separately or combined; first, the discharge being great, the persons in charge of the animal may, and no doubt in some instances do, exercise more care in keeping the diseased from the healthy; secondly, in the copious discharge the much larger portion is mucus, and that being so, I cannot but think that this mucous discharge in itself is incapable of producing the disease in others, that is to say, does not contain any of the germs of Glanders. If the whole of the discharge were equally virulent, I should expect in those cases where it existed more horses would take the disease; and, again, animals have been inoculated with the discharge from the nose of horses with Glanders, and some of the animals so inoculated have not taken the disease. May this not be from the mucous discharge only having been used?

It would be impossible to separate the two discharges one from the other; but it would be instructive upon this point if one had a horse affected with Farcy, and at the same time catarrhal discharge from the nose, to inoculate a

few animals with the discharge from such horse. I take it that would prove if it contained any of the germs of Glanders-Farcy or not.

In Glanders, the amber-coloured discharge from the nose certainly contains the germs of the disease, and in Farcy the discharge from the ulcers; these germs must be introduced into the system to produce the disease in either form. There are several ways by which these germs may enter the system; by the mucous membrane of the respiratory organs, alimentary canal, or the eye, and by any wounds of the skin.

It has been stated by many members of our profession, that if the virus be taken in either the food or water it cannot produce the disease; but experiments have been performed showing that it can, and I think there is not the slightest doubt about it. But possibly the percentage of affected of those swallowing the virus is but small, or I feel convinced that the use of pails and water troughs indiscriminately in large studs of horses, and the water troughs in the streets, would be a means of giving the disease to thousands. Is it not possible that the gastric secretions in very many cases may destroy the germs of the disease?

Then the virus may enter the system by wounds of the skin; this would be direct inoculation, and I can call to mind several such cases.

The glandered horse, when next his neighbour or passing another, may give a snort or cough which would distribute the nasal discharge somewhat like a spray-producer, and possibly impinge upon the eye or be drawn up the nostrils in inspiration, and thus enter the system.

It has been asserted by some that the dry discharge, either from the nose or ulcers, is perfectly inert. This I deny, for I firmly believe the dry discharge from the nose in Glanders is more often the cause of the spread of the disease than any other medium of contagion.

Probably most of the gentlemen here have noticed the discharge on the wall, divisions of stalls, or mangers, where a glandered horse has been standing. This, in some instances, is quite firmly fixed to the parts, but in others (probably that which has been there some days) it will be curled up in the drying, and only slightly adherent; so that the least touch, or even a strong wind, will detach it. This may be blown away, or if another horse be put into the stall, what is more likely than that he, in smelling about, may detach some of this, and in inspiration draw it up his nostrils?

Again, the men in charge of glandered horses, in feeding often allow them to rub the discharge on their backs, and thus carry it about to be inspired by healthy ones. I can call to mind an instance of this. Some months back I was requested to see some horses. I found one with chronic Glanders, and one with Farcy, and advised the slaughter of both. The owner would only consent to have the one with Farcy destroyed, and removed the other to a box by himself some distance away. Notwithstanding this, he lost several more from Glanders, still keeping the first one, against my advice. I cautioned both owner and man repeatedly about not allowing the horse to rub the discharge on their clothes, and one day, whilst repeating my caution, the horsekeeper went up to the manger with a basket of food, and the horse rubbed his nose along his back, leaving a good coating of the discharge on his clothes, the owner and myself witnessing it. This convinced the owner that his isolation was of no use, and he at once consented to have the horse destroyed.

Goats, pigs, cats, etc., may just as easily carry the virus about.

The contagion of Farcy is in the discharge from the "buds," or ulcers; this is not so likely to spread the disease, for although the discharge is probably as virulent, still it is not so likely (except when affecting the nose or face) to get upon the mangers, pails, clothes of the attendant, etc., and thus the healthy are less likely to get any of the discharge upon any part where it

XUM

can be taken into the system. But in the cleansing of the ulcers, the disease may be spread by using the same sponge or tools to other horses.

To recapitulate: the cause of Glanders-Farcy, I may say, is contagion alone; that the disease may be spread by actual contact with the diseased animals, or it (that is, the virus) may be carried about by the attendant upon the diseased animals, or by animals such as cats, pigs, goats, etc., allowed about the place; that the theory of spontaneous generation I entirely disbelieve (although years ago I did believe in it), as it is impossible to produce the disease unless its germs be introduced from without; and that the dried discharge from the nose in Glanders is more frequently the means by which it is spread than in a wet state, or than the discharge from the ulcers in Farcy.

Before concluding, I should like to make a few remarks upon the means of preventing the spread of the disease. The best, and by very far the most economical measure, is to slaughter every horse showing the least symptom of the disease in either form; by pulling down all old mangers or woodwork, and thoroughly disinfecting the whole of the stable and every article used about the diseased horses, including the attendant's clothes, if necessary. If slaughter be objected to, then the animals should be perfectly isolated, and by this I do not mean the isolation as carried out by some—that is, merely putting the horses into loose boxes or stalls with a division of wood or other material about six or seven feet high, leaving the upper part open from healthy to diseased; but they should be moved into another yard, away from all healthy horses, and kept under the care of a man whose whole duty is to attend to them; and this attendant should be strictly cautioned as to the contagiousness of the disease, and exercise every care, or he himself may become affected, as not a few persons have been.

In nearly every instance where I am called in and find a horse with Glanders-Farcy, I suggest that an examination of the whole of the horses should be made, and in very many instances I have found that a horse which has never been thought to have anything amiss has really been causing the mischief, and probably would have done much more if it had not been detected by me.

That the recovered cases should never again be allowed with the healthy, and ought never to be sold except for slaughter. I say the recovered cases, for I have seen many of these, and will give you the history of one. About four years ago I was called to attend a horse which, upon examination, I found was affected with Glanders. The owner would not have him destroyed, but kept him, and eventually all the symptoms disappeared; he was put with the healthy horses, and as far as I know did not exhibit any symptoms for three years, when he was shown to me again, with decided symptoms of Glanders. He was again put under treatment and all the symptoms disappeared, and he is now with the healthy horses, but against my advice. Glanders-Farcy is never out of this stable for long, and I should not be surprised if this horse has been the means of giving it to many.

Many of the cases of so-called recovery from both forms of the disease will eventually break out again with it sooner or later and probably give it to others. So that there cannot be a doubt that slaughter is the best and by far the cheapest remedy and preventive of its spread.

The Contagious Diseases (Animals) Act may have done a little good in stamping out the disease, but I do not think it has done much. It appears to me that the form gone through in the inspection (after notice of an outbreak is given) is a perfect farce, quite useless and incapable of tending to prevent the spread of the disease; and, moreover, I am sorry to say some inspectors endeavour to push themselves in to the disadvantage of the veterinary surgeon in attendance.

XUM

There are many persons who constantly work horses with this disease, and are very seldom discovered; and many stables in London are perfect hotbeds. If these people were looked after, then much good might be done. More good has been done in stamping out the disease by the members of our profession in their private capacity than the Contagious Diseases (Animals) Act has ever done. My experience is that most people now are easily persuaded into slaughtering the affected horses, especially educated men, and the veterinary surgeon at the present time gets credit (and justly) for being something more than a quack, and his advice thought much more worth having than was the case a few years back.

In every instance in which the stamping out of the disease has been promptly carried out, I am sure none have regretted it, and in my practice where it has been followed, I do not call to mind a stable in which the disease exists now. I am sorry to say that a few of my clients will not believe in stamping out (and I think this is partly due to their belief in its generation other than by contagion); they do not like the idea of slaughtering a good horse unless it has the disease badly; the consequence is, there are always cases occurring in their stables.

Some horses in which there is a doubt if they be glandered or not, have been by old horse-masters classed as "suspicious;" no doubt their veterinary surgeons have told them they were suspicious cases of Glanders, and the word suspicious has been used until some believe it to be a distinct disease, something between Glanders and health. These cases very often are cases of chronic Glanders, and the most dangerous animals to keep about. "Suspicious" is a word I never use, having seen the danger of its making people careless.

In conclusion, gentlemen, I must thank you for the kind attention you have paid to my remarks. I hoped to bring a paper upon a subject not so common to us as Glanders-Farcy, but time would not permit. I trust you all will join in the discussion, and that although it is a disease so common to us, we may all leave this room having gained more knowledge upon the subject.

Mr. HUNTING in opening the discussion complimented the essayist on the practical and useful nature of his paper. He was pleased to hear that Mr. Woodger had become a convert to the modern views on the origin of Glanders. He did not think that private practitioners generally had done so much towards eradicating the disease as Mr. Woodger had stated, especially in the country, where cases of the kind were kept under treatment, unreported, and where much ignorance of the malady prevailed. For this state of things the erroneous views hitherto taught by the teaching centres were in a great measure responsible; it had been taught that Farcy was curable, and that Glanders and Farcy could arise from hard work, bad ventilation, and so on: it was, therefore, now the duty of veterinary surgeons to help the Government and private individuals to undo the mischief wrought. Private practitioners could doubtless effect much good without legal enactments if they chose, but it was a question, he said, whether they all used this power. He had no doubt that Farcy could be sometimes apparently cured, but not absolutely; two years ago he would have said that in young horses it might be radically cured, but about eighteen months ago he saw a *post-mortem* examination which revealed the worst state of disease he ever witnessed, though symptoms had only been developed a few days prior to death; three years before the horse had been treated for Farcy, and seemed to recover. The disease will remain latent in the system for three years; then why not for four, five, or six, or more years?

He then related how an outbreak of Glanders occurred among some coal-pit horses, where dried matter upon the walls was the cause of disease. The

XUM

stable into which the horses were put had been, some years before, occupied by a number of horses which had died off in the most rapid manner from acute Glanders; since which time the place had been closed and untenanted.

He thought much mischief and spread of disease in London resulted from the sale of studs of horses in which Glanders had broken out, and that some restrictions should be put by the law to prevent indiscriminate sale in such circumstances.

The further discussion of the subject was then adjourned to the next night of meeting.

Adjourned Discussion on the Subject of Mr. Woodger's Essay.

This meeting was held on the 1st of February at the usual place, the President in the chair; the other Fellows present being Professor Pritchard, Messrs. G. R. Dudgeon, F. G. Samson, G. Gray, A. Broad, H. K. Shaw, C. Sheather, J. Rowe, T. Burrell, W. Roots, and W. Hunting.

Mr. Shaw said he agreed with most of the statements of the essayist as to the origin and nature of the disease. He also had reason to think that goats and other small animals about a stable were carriers of contagion. He defended the inspectors acting under the authority of the Contagious Diseases (Animals) Act against the statements made by the President. As to the provisions of the Act, he thought, with Mr. Hunting, that more restrictions might be applied to the sale of horses from infected premises, such horses when sold by public auction causing a wide dissemination of disease.

Professor Pritchard questioned the speaker with regard to his reference to repositories, but Mr. Shaw said he spoke from intimate knowledge on the point.

Mr. Samson thought that owners of affected horses were allowed to keep them too long, and it was hard work to convince them that farcied horses should be killed; veterinary surgeons also too often unwisely kept them for treatment. He supported the assertions of Mr. Shaw that horses with the latent disease were too freely sold from infected premises, and he regarded the frequent sales of cab stock with great suspicion. He agreed with the essayist as to the danger to be feared from dried matter upon the walls, and urged the necessity of thoroughly scraping and scrubbing all exposed surfaces prior to applying the disinfectant.

Mr. Burrell said: "It is to be regretted that veterinary surgeons are so anxious to kill rather than cure. I do not see why we should not treat a case of Farcy, for some are curable; I have watched them for eight or nine years after recovery. It was admitted by Mr. Hunting that a horse, after treatment for Farcy, may go for five, or even six, years without a re-appearance of the symptoms. Now I will invite him to go a little farther, and say an indefinite time, and I consider this equivalent to saying that the complaint may be cured; for surely if a horse may so far recover his health as to keep free from any symptom of disease for eight or nine years, we might expect the same to happen for any number of years. I think it well that we should understand what is meant by the phrase 'latency.' A case of so-called latency is reported in the Veterinary Journal for April last, but it was a clear case of chronic Glanders. I am inclined to doubt whether the disease does become latent; we do see the external symptoms disappear, and lung complications show themselves, but there is nothing latent in such a case. If a horse is free from any indication of disease, if there is no increase of pulse, and nothing to lead one to suspect that the animal has Farcy or Glanders, why should we assume that the complaint is latent in the system? If the horse should again suffer, can it not be supposed that a fresh con-

tamination has taken place, seeing that the germs of disease are so ubiquitous?" He then said the cases for treatment should be selected; if the horse fed well, and if the disease was confined to one limb, he thought it was a very proper case. Isolation was always to be adopted. "Stamping out" he considered impracticable for several reasons, one being the difficulty of making accurate diagnosis.

Professor PRITCHARD said, "Have you ever found tubercles absent from the lungs of a horse which had suffered from Farcy?"

Mr. BURRELL said he had.

Professor PRITCHARD said it was a sight he would travel far to see; should he find lungs free from tubercles, so-called, he would say that the disease was not associated with Glanders. He said that Mr. Burrell had exposed the weak point in his argument when he stated that, although he would treat and cure some cases of Farcy, they should be completely isolated.

Mr. BROAD said he understood Mr. Burrell to mean, merely that he would isolate his mild case of Farcy, lest its contagion should produce in another horse an acute attack, either of Farcy or Glanders. Still, he did not agree with the views which Mr. Burrell had enunciated. The "stamping out" principle could not be too vigorously enforced. The dangers and difficulties of isolation were very great. In practice, he had found that where it was customary to treat cases, however isolated, there the disease was most rife and rooted, always cropping up; but in those stables where each outbreak was cut short by the slaughter of the animal, it soon became of rare occurrence. He considered that the Act of Parliament had done much good, even though its provisions had been, as in the case of other Acts, often evaded. With regard to Mr. Woodger's remarks upon the different characters of the nasal discharge, he was of opinion that if a horse had Farcy, and, following out the suggestion, a catarrhal discharge appeared, the system would be so imbued with the poison of disease, that the discharge would not be found innocuous.

Mr. HUNTING said he would take up Mr. Burrell's challenge, and aver the possibility of entirely stamping out Glanders, as had been the case with other diseases. He instanced the horses of the British Army, which had once been a hotbed for the malady; now it is rare in the returns. The Zulu, Ashantee, and Egyptian campaigns had all been finished without an outbreak of Glanders, though—among the Bengal Cavalry—some horses had fallen victims to it while in Egypt. Certainly, if eradicated, the disease might be re-imported, as it had been already from New York. He said he had known stables in which Glanders used to be exceedingly rife, but where it had now dwindled to a very small percentage. He quoted extracts from the Veterinary Report of the Privy Council for 1881. The Metropolis headed the list for number of cases; next came the Home Counties. Lancashire, though including Manchester, was very low on the list. Where the local authorities will not exert themselves there is, he said, great difficulty in eradicating the disease; this is the case in Manchester. He was of opinion that the Act had certainly done good; a few years ago one could safely count on finding at each of the slaughter-yards in London one or two cases of Glanders or Farcy on any day of the year; such is not the case now. If Mr. Burrell's advice were acted upon, he agreed that it would be impossible to eradicate Farcy or Glanders. It was probably true that a horse might recover from Farcy and never show any symptoms again, but such cases are few and far between, hardly one per cent., and we must legislate for the ninety-and-nine.

Mr. BROAD said that his conclusions with regard to the latency of the disease were supported by the result of *post-mortem* examinations. He had

XUM

seen horses apparently recover from Farcy and Glanders, and they had, at various times subsequently, met with an accident, or some totally different disease; in their lungs the characteristic miliary tubercles were found. The same state of lungs was occasionally seen in the examination of horses dying from non-specific complaints, those horses having come from stables harbouring the disease, but having never been known to show any symptoms, either of Glanders or Farcy.

Mr. SHEATHER said he had had medical charge of a large stud of horses for six or seven years; it had been the rule formerly to kill annually some two or three-and-twenty horses for Glanders. Farcy was treated, he said, to the bitter end. After great difficulty, he inaugurated a different system, and slaughter began wholesale, error being only made on the safe side. The stud became remarkably healthy, many months passing without a case. The disease could be "stamped out" if the requisite trouble were taken. It was, he said, very necessary to watch the incoming horses; a stable could not be kept free if horses were brought from all sorts of places. He thought that other affections were often mistaken for Farcy, and cured. He referred to a horse he had which only suffered from a persistently swollen hind leg, amenable to no treatment: after slaughter the lungs were fonud extensively diseased.

Professor PRITCHARD, replying to a question from Mr. Shaw, said he believed that the lungs were always implicated. Glanders and Farcy were synonymous terms, the same disease in different situations. There were, he said, many affections of the absorbents of the limbs unassociated with Farcy, and these are cured, genuine Farcy you will not cure.

Mr. WOODGER, in the course of his reply, said he did not attach so much blame for inefficiency to the inspectors as to the Act of Parliament. In stables where the loss from this disease is great and continuous, what good is effected by the Act as now enforced? He had never seen a reputedly cured case go longer than three years without a relapse. In every farcied horse examined by him *post mortem*, he had found miliary tubercles, and he thought that the lungs were not so much affected in acute Glanders as in cases of milder type. He was able to point to several studs of horses in his district from which Glanders and Farcy had been quite eradicated. He instanced cases of the mischief resulting from the indiscriminate sale of an infected stud of horses.

Mr. HUNTING then proposed a vote of thanks to Mr. Woodger for the essay contributed.

Mr. BURRELL seconded the proposition, and it was unanimously carried.

Mr. ROOTS laid a morbid specimen before the meeting. It showed a thick pedicle, about six inches long, attached at one extremity to the colon and mesenteric glands, at the other to the abdominal wall on the near side. The horse had been in the possession of his late owner for only three months; it had suffered from abdominal pains, and latterly from acute Enteritis. The last attack was prolonged for about thirty-six hours, and was terminated by a very painful death. The small intestines were found strangulated by the cord-like formation. The mesenteric glands at this point were swollen, and contained pus.

Mr. PRITCHARD said the case appeared shrouded in much mystery, but he thought there was scrofulous disease of the mesenteric glands, and that the peduncle was a morbid growth originating from them.

ALFRED BROAD, *Hon. Sec.*

ONTARIO VETERINARY ASSOCIATION.

THE annual meeting of this Association was held in the Ontario Veterinary College, Toronto, on December 21st, 1882.

There was the usual attendance of members from all parts of the Province, also some from the United States.

The PRESIDENT (Mr. Elliott) in his opening address referred to the advancement of the profession in Canada, and citing as proof of the confidence of the public in its members, that not a dollar of the funds of the Association had to be expended in defending them in the law courts. He expressed the opinion that a benefit society, in connection with the Association, would be appreciated by its members, and closed his remarks with a well-merited eulogium of the Ontario Veterinary College.

The minutes of the last meeting were then read and confirmed, and the Secretary's and Treasurer's reports received and adopted; these showed the finances of the Association to be in a healthy state.

Dr. DUNCAN moved, seconded by Mr. Wilson, and supplemented by very complimentary remarks by Professor Smith, that in view of the great services rendered to the veterinary profession by G. Fleming, Esq., F.R.C.V.S., through his valuable contributions to veterinary literature, through his exertions in the passage of the Veterinary Surgeons Act of 1881, and in other ways, therefore be it—"Resolved, that the Ontario Veterinary Association, on behalf of Colonial practitioners, records its high appreciation of the labours of Mr. Fleming, and requests its Treasurer to forward the sum of twenty-five dollars as a contribution towards the testimonial about to be presented to that gentleman, in acknowledgment of these services." The resolution was carried unanimously.

Mr. COWAN moved, seconded by Mr. Coleman, that the Association having learned with pleasure of the honour that had been conferred on Professor Smith, Principal of the Ontario Veterinary College, by electing him an honorary associate of the Royal College of Veterinary Surgeons, desire to express its appreciation of the honour conferred on the respected Professor of the Ontario Veterinary College, and through him on the veterinary profession on this continent.

Dr. DUNCAN, in addressing the meeting, expressed the hope that increased interest would be taken in the meetings, and that members should regularly read and discuss papers at each meeting.

Messrs. Rogers, Cowan, and Sweetapple agreed to read papers at the next meeting.

Mr. HINMAN gave an interesting account of a peculiar case in his practice.

Attention was called to a party advertising illegally as a veterinary surgeon, and the Secretary was instructed to notify him to discontinue so doing.

Some matters relating to the tariff of fees, etc., were then discussed, and several new members were duly elected.

The election of office-bearers for the ensuing year then took place, with the following result:—Mr. Elliott, President, re-elected; Mr. Coleman, first Vice-President; Mr. O'Neil, second Vice-President; Mr. Sweetapple, Secretary; Mr. Cowan, Treasurer; Messrs. Hamilton and Hinman, auditors; Messrs. Hinman, Sanderson, Cæsar, Hamilton, Wilson, Logan, Steele, and Grange, Directors; Professor Smith, Honorary Director.

Moved by Mr. Wilson, seconded by Mr. O'Neil, that the sum of 25·00 dols. be appropriated for a medal to be competed for by the students of the Ontario Veterinary College at the spring examinations.

The meeting then adjourned until the spring.

XUM

ROYAL AGRICULTURAL SOCIETY.

AT the monthly council meeting of this Society, held on February 7th, the Hon. W. Egerton, M.P., reported that he had been elected chairman for the year. The Committee had received the following report of the examiners appointed by the Royal College of Veterinary Surgeons to award the Society's veterinary prizes and medals :—

"GENTLEMEN,—We, the examiners appointed by the Council of the Royal College of Veterinary Surgeons to examine the candidates for the veterinary prizes so liberally offered by the Royal Agricultural Society, have the honour to report that three candidates came forward, and they so far acquitted themselves to the satisfaction of the examiners that they were considered eligible to enter upon the written or final portion of the examination. We award out of a possible 1,500 marks, to—

Mr. W. A. Edgar, Dartford	1,145
Mr. A. H. Archer, Dunstable	885
Mr. J. B. Gresswell, Louth	820

"We therefore recommend that the first prize be given to Mr. Edgar; second, to Mr. Archer; third, to Mr. Cresswell.

"Although these candidates have obtained the above number of marks, we were sorry to find in the oral examination, that their knowledge of the subject of grasses, and their influence in the production of disease—which we thought it desirable to test—was of a more limited character than we had expected. We have the honour to be, Gentlemen, your obedient servants,

"(Signed) { WILLIAM DUGUID, THOMAS WALTER MAYER, WM. ALSTON EDGAR."

In consequence of the paucity of candidates, and the small interest apparently felt by the veterinary profession in the examination for prizes offered by the Society for the encouragement of the study of cattle pathology, the Committee regretted to have to recommend the withdrawal of the offer of these prizes in future; but they recommended that the silver and bronze medals of the Society be offered to the two students who may pass the best examination in the pathology of cattle, sheep, and pigs at the Diploma Examination of the Royal College of Veterinary Surgeons. A letter had been received from Mr. W. A. Edgar, advocating the institution of experiments as to swine-fever, in continuation of Pasteur and Klein's investigations, but the Committee did not at present intend to make further investigations.

Mr. J. MARTIN asked whether the attention of the Committee had been drawn to the disease known as "pink-eye," which he understood was raging in Yorkshire and some other parts of the country?

Mr. DENT said he did not think that the disease prevailed generally in Yorkshire; but in Northumberland, Durham, and the north of Yorkshire, in many colliery stables it was raging; and it had become so serious that the Contagious Diseases Committee for the West Riding had recently called the attention of the Privy Council to it. Some people imagined it to be a disease imported from America, but he was told by the manager of the horses belonging to the North-Eastern Railway Company that it was not a new disease, but one which had been in existence for many years. Certainly in the North of England it had been very virulent, and had caused great losses. Mr. Dent added that he regretted very much the withdrawal of the prizes offered as an encouragement to veterinary students, but it seemed

perfectly absurd that the Society should annually give £50 in prizes, in addition to the expense of the examination, when there were never more than four candidates.

Earl CATHCART said that in the neighbourhood of Northallerton very considerable anxiety prevailed on the subject of the disease in question.

Mr. MARTIN said that personally he knew nothing whatever about the disease, but he was informed that it was a virulent form of Influenza. It appeared to attack the mucous membranes of the throat, then the head swells and the eyes take a deep pink hue, and the lungs become affected.

Mr. DENT said that if the horses attacked by the disease were not properly treated at once, there was great danger of death ensuing.

Professor SIMONDS observed that the disease commonly designated "pink-eyes" was so called because the membrane assumed a pink hue. That was an Americanism, and he was sorry that it had been adopted in this country. The disease was nothing more than Influenza, and the only peculiarity with reference to this visitation was that it had assumed an epizootic character. There were some doubts as to whether it was a contagious disease, but perhaps it might be safely considered that under certain circumstances it spread from one animal to another. It was a disease which did not affect cattle or sheep, but only horses. Horses were of course rendered very susceptible to the disease where they were placed in unhealthy situations, such as pits; and in districts such as Newcastle, there were in operation many causes of a nature calculated to produce the disease. In a case of this affection farmers should take good care that no depletive remedies were used. The case required to be treated—if he might use the simile—rather by the cook than the doctor. The remedies administered should be of an invigorating character. If care were taken to keep the animals in healthy situations, diffusible stimulants given, and depletive remedies not used, we should hear very little of the disease.

The report of the Committee was then adopted.

EXAMINATIONS OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

AT the meetings of the Court of Examiners of the Royal College of Veterinary Surgeons, held 13th January, 1883, the following students from the Royal Veterinary College were admitted members of the profession :—

Mr. T. A. Smith	... ...	Oakley Square, London.
„ Walter Smithers	... ...	Finsbury, E.C.
„ R. W. Raymond	... ...	Longford, Ireland.

The following students passed their "Second Examination" on the 11th and 12th January :—

Mr. A. Gill.
„ C. F. H. Skelton.
„ H. L. Somers.
„ †W. B. Snowball.
„ L. Burghope.
„ *C. W. Heinemann.
Mr. *H. M. Singleton.
„ T. H. Higgott.
„ *T. E. Baker.
„ H. Smith.
„ W. Brown.
„ W. S. Reid.

The following students passed their "First Examination" on 8th, 9th, and 10th January :—

Mr. W. A. Collins.
„ W. Revill.
„ W. E. Morgan.
„ J. B. Exley.
„ H. B. Maples.
„ *G. E. Fryer.
„ F. Wright.
„ J. C. Coleman.
„ *F. W. Leigh.
„ J. Farmer.
„ T. B. Arnald.

Mr. W. F. Phillpot.
„ R. Simpson.
„ F. A. Simpkin.
„ A. Jones.
„ C. W. Marshall.
„ F. E. Meek.
„ H. B. H. Chambers.
„ R. E. Brundell.
„ G. W. M. Haydon.
„ *F. T. Harvey.
„ H. B. Arnald.

EXAMINATIONS OF THE R.C.V.S. IN SCOTLAND.

AT the several meetings of the Scottish Section of the Court of Examiners of the Royal College of Veterinary Surgeons, held in Edinburgh on the 17th January, 1883, the following students passed their "Final Examination," and received the Diploma :—

Edinburgh Old College.

Mr. J. A. Braddell ... ... Mallow, Co. Cork.
„ Samuel Bailie ... ... Ballynahinch, Co. Down.
„ James Anderson ... ... Methven, Perthshire.

Edinburgh New College.

Mr. T. A. Mitchell ... ... Leith.

The following students passed their "Second Examination" on the 16th January :—

Edinburgh Old College.

Mr. Thomas Wooff.
„ H. Gilsthorpe.
„ Chas. Nowell.
Mr. Wm. Franklin.
„ John Hackett.

Edinburgh New College.

Mr. *A. H. Spinks.
„ *R. H. Settle.
„ A. E. Darwell.
„ Chas. Pringle.
Mr. F. W. Kendall.
„ *Josh. Faulkner.
„ T. J. Davies.
„ P. A. Porteous.

The following passed their "First Examination" on the 15th January :—

Edinburgh Old College.

Mr. W. Tindall.
„ Alexander Davidson.
„ A. Smith.
„ John Gemmell.
Mr. Arthur James.
„ J. Soga.
„ J. Riddock.
„ F. Brown.

Edinburgh New College.

Mr. T. Watson.
„ A. W. Middlehurst.
Mr. A. G. Corner.
„ F. C. Golden.

Glasgow College.

Mr. R. S. Mitchell.
„ J. G. Deans.
Mr. D. M. Gray.

* Marked thus passed with Great Credit.
† Marked thus passed with Very Great Credit.

Parliamentary Intelligence.

House of Commons, February 19th.

FOOT-AND-MOUTH DISEASE.

MR. BIRKBECK asked whether upwards of 300 head of cattle arrived at Liverpool on the 31st of January in the steamship *Kansas*, all affected with Foot-and-mouth disease; and whether, taking into consideration the serious losses incurred by tenant farmers from Foot-and-mouth disease, the Government would prohibit the importation of live stock from foreign countries where disease was known to exist.

Mr. MUNDELLA stated that the steamer *Kansas* arrived at the foreign wharf, Liverpool, with a cargo of 313 cattle and 298 sheep on the 31st inst. The inspector of the Privy Council at Liverpool certified 219 of the cattle as affected with Foot-and-mouth disease, and the sheep with the Scab. The cargo was landed at the cattle wharf, Birkenhead, and slaughtered. It was not the intention of the Privy Council to prohibit the importation of live stock from foreign countries where disease was known to exist. He was advised that there was no country in the world where disease, as defined by the Act, was not believed to exist, and prohibition would be a direct violation of the principle of the Act, that which distinctly provided for the slaughter of animals at the port of debarkation coming from countries where disease existed.

In a debate on the Address, allusion was made to the present agricultural depression and its causes, among which contagious diseases was included.

Mr. MUNDELLA, addressing himself to the question of the importation of foreign cattle, admitted that the commercial and manufacturing interests of the country had no expectation that trade would be greatly improved until agriculture had recovered from its present depressed condition. It was impossible that a loss of fifty millions sterling could go on year after year without being felt by all branches of industry, and his own belief was that if there were three years of agricultural prosperity the general trade of the country would be enormously improved (hear hear). What would be the effect of the prohibition of importation of live animals into this country? In 1881 we imported live foreign animals to the number of 1,278,891, and to the value of £8,526,000; and in 1882 we imported 1,483,761, of the value of £9,272,000. If that was abstracted from the consumption of the country, the price of meat would be enormously increased; he believed it would not be less than from 2d. to 4d. per pound. In 1880-81 the importation of fresh meat was 8,012,000 cwt., and that had fallen off nearly a million cwt.; and what the hon. gentleman proposed to do was to cut off the supply of live cattle from all infected countries. Now, he had always understood that one of the greatest boons which had been conferred by the Legislature on this country was the passing of the Contagious Diseases Act of 1878, but hon. members opposite spoke of it as if it were quite valueless. With regard to the various diseases, there had been no Cattle Plague since 1878, no Sheep-pox, and no Pleuro-pneumonia, for which the Act had specially been passed. In 1877 there had been 2007 outbreaks of Pleuro-pneumonia, and 5000 animals affected, and these had been steadily coming down every year, until in 1882 there were only 494 outbreaks and 1209 animals affected. He hoped that very soon Pleuro-pneumonia would be stamped out. As to Foot-and-mouth disease, this country was free of it in January, 1880, but soon after that three diseased cargoes came in. But 1880 was an exceptionally good year, the outbreaks of Foot-and-mouth disease that year being 1461, and 32,378 animals affected. In 1881 the outbreaks were 4833, and the number of animals affected was 183,000; in 1882, which was nearly as good a year as 1880, the

number fell from 4800 outbreaks to 1970 outbreaks, and 37,950 animals affected. Millions of sheep had been lost from Fluke, and millions more must have been lost from that disease but for what had been done by the Privy Council to check it. Fluke was not an imported disease, and it was not fair, therefore, to attribute everything to disease that was imported. The Privy Council had done all they could to check the importation of disease of any kind. They had had the courage, whenever they found that a country was diseased, or had reason to suspect that it was diseased, to place that country under the slaughter provisions, and at the present moment there were only two countries—Canada and the Scandinavian islands—whose cattle were not slaughtered at the port of debarkation. He was not so sanguine about stamping out Foot-and-mouth disease as he had been, and there were others of the same opinion, but the Government had been guided by the Act and the practical wisdom of those who were conversant with the subject. They had done their best, and would continue to do their best to stamp out the disease (hear, hear). The evidence given to them went to show that breeding had not been stopped by Foot-and-mouth disease, and, so far from there having been a falling off in the number of cattle, the fact was that the number had increased since 1867 from about 4,900,000 to about 6,000,000 (hear, hear). There had been an increase since last year, and the falling off had been almost entirely in sheep. Ia dealing with disease, the Government did not want to stop the importation of cattle. What they wanted was that everybody should send us as many as they pleased, but that they should be slaughtered at the port of debarkation. What the hon. member for Mid-Lincoln wanted was that they should be slaughtered at the port of embarkation, which was a very different thing. It would result in creating famine prices, and prove a very serious thing for the consumers in this country (hear, hear).

Army Veterinary Department.

Gazette, January 30th.

Veterinary Surgeon R. F. Frost to be Veterinary Surgeon, First Class.

Obituary.

THE registrar has to report the death of Thomas Adamson, of Darlington, who graduated in April, 1856.

Notes and News.

EFFECTS OF RAREFIED AIR.—Dr. A. Fraenkel has read a paper before the Physiological Society of Berlin on certain experiments which he has made in conjunction with Dr. Geppert to determine the influence of a rarefied atmosphere upon the animal organism. In addition to the general phenomena and the behaviour of the gases of the blood in animals which breathe in a rarefied atmosphere, investigations were made as to the influence of rarefaction upon blood pressure. The blood pressure was read off upon a manometer, one arm of which communicated through the side of the box (in which the animal was kept exposed), with an artery of the animal, while the other arm was in communication with the general cavity of the box. When the atmospheric pressure sank to half the normal amount, the blood pressure showed no change; when the pressure sank to a third of an atmosphere, a small rise took place in the blood pressure. This rise, however, passed away during

the sleep that occurred under the influence of this amount of rarefaction, and the pressure became normal again. When the air was still further rarefied till the pressure was as low as one-quarter of an atmosphere or less, the pulse became weak and small, the blood pressure went down, and then if normal quantities of oxygen were not quickly restored, the heart stopped. The chief gain of the whole investigation was the definite determination of the influence of a rarefied atmosphere upon metastasis (Stoffwechsel), upon which question only few and contradictory *data* exist. The investigators agreed in general with M. Paul Bert in regarding the effect of a rarefied atmosphere as inducing a chemical change which was brought about by a diminished supply of oxygen. The amount of urea secreted in the twenty-four hours was taken as the measure of metastasis. During a lengthened period of observation on those days in which the animals thus experimented upon had the same amount of food, the quantity of urea secreted in the twenty-four hours remained constant. Nor was there any alteration in the amount of urea when they were exposed to variations of pressure down to half an atmosphere. On the diminution of the pressure to one-third of an atmosphere, at and under which pressure the amount of oxygen contained in the blood is markedly diminished, and the animal falls into a deep sleep, there was, after this degree of rarefaction had lasted several hours, a very remarkable increase in the amount of urea. This increase did not occur till the next day in the case of animals which had been fed, whereas it occurred on the day of the experiment in the case of those animals which were kept hungry; but it lasted in all cases over a couple of days after the experiment. Dr. Fraenkel's belief is that the rarefaction influences the metastasis, by depriving the blood and the tissues of some of their necessary oxygen, and that this want of oxygen entails an excessive destruction of albumen, the constituents of which are in part deposited as fat and in part are changed into urinary products. Besides the increased elimination of urea, fatty degeneration of tissues (*e.g.*, of the heart) is observed when the system is in want of oxygen.

TURCOMAN HORSES.—In his recently published work, "The Merv Oasis," Mr. O'Donovan gives some account of the horses to be found in the Turcoman steppes (Vol. II., pp. 332-333). His estimate of the pace and staying powers of these animals does not altogether agree with the glowing statements of some other travellers. Mr. O'Donovan remarks that "a first-class Turcoman horse, after a month's special training, and with ample and special food, will go from sixty to seventy miles a day, and keep up that pace for an apparently unlimited period." But his speed, as compared with that of a high-class European horse, is poor. Generally speaking, the Turcoman horse is very leggy, but extremely graceful of limb. He has a long and narrow chest, and the same may be said of his shoulders. His head, though inclining to be large, is usually handsome, but his neck is unsightly. It is slightly concave from above, giving to the horse a strange likeness to a camel. At the point of junction with the head the neck is apt to be very constricted, and this gives the animal a half-strangled appearance. But the author says that these deformities disappear in the produce of horses crossed with pure Arabs. It may be added that Mr. O'Donovan's observations on the merits of Turcoman horses were confirmed by the estimates of the natives themselves. Some fine horses are to be seen at times on sale at the bazaars, at prices varying from £30 to £60; but, as a rule, animals of this value are not sent to the bazaar, few of its frequenters being willing or able to invest for them such serious sums. The price of a Turcoman horse is generally a fancy one; and asked not so much with reference to beauty or physical development, as in consideration of some wonderful exploit which the vendor declares he has performed, of swiftness or staying power. As, however, the Turcomans are too well acquainted with each other's powers of mendacity to place much

confidence in such a statement, the really excellent animals are kept for their owner's own use, or else purchased after a trial. There are not generally more than half a dozen horses exposed for sale on any given day; but the numerous frequenters of the bazaar, almost all of whom are mounted, are ready to part with their horses should an adequate price be offered. Asses are generally forthcoming in great numbers; and, so far as Mr. O'Donovan's experience goes, they appear in no wise larger or stronger than the humblest specimens of their kind at home in Europe. It is true that the large white ass is used in Persia by persons of distinction, especially by the Moullahs, and that they rival horses in price, but none were seen by Mr. O'Donovan at Merv.

THE LATEST SPHÆRO-BACTERIUM.—The *Chicago Medical Journal and Examiner* publishes the following: Drs. Daniel R. Brower and Lester Curtis were in attendance upon a lad affected with perfectly typical tetanus, resulting from a wound in his hand inflicted by the explosion of a toy pistol. They determined to examine his blood with the microscope, and, having done this, discovered that it was swarming with organisms precisely similar to the sphæro-bacteria recognized in the ill-conditioned pus removed from an abscess communicating with a joint. The blood of a horse affected with tetanus was then placed by them under the same objectives, and in it also similar organisms were discovered. Not content with pushing their investigations to this point, they proceeded to examine the mother of the boy who was their patient, and also another of her children; and, to their surprise, found in the blood of each an abundance of the same germs. A neighbouring frog-pond was finally searched, and found to furnish masses of the same bacteria. The boy recovered from his tetanus, and was taken before a body of scientific gentlemen in this city, where his blood, still swarming with bacteria, was placed on slides and examined by a dozen or more physicians and others of unquestioned discrimination and veracity. All were able to recognize the existence of the bodies to which their attention was directed.

VETERINARY SCHOOLS AND TEACHERS.—The Argentine Republic has established a Veterinary School at Buenos Ayres, and installed as its Director, M. Tombear, and Professors MM. Lambert and Bernier—all Belgian Veterinary Surgeons.

Professor and Councillor of State, Dr. Raupach, has been appointed Director of the Veterinary Institute, Dorpat, Russia, in place of Professor Unterberger, who retires.

The Turkish Government has engaged a Belgian Professor to give a complete course of instruction in theoretical and practical veterinary medicine, in the Imperial School of Medicine at Constantinople.

The trustees of the University of Pennsylvania have received the sum of ten thousand dollars for the establishment of a Veterinary College in connection with that institution.

VETERINARY MEDICINE IN SOUTH AUSTRALIA.—We are gratified to learn that His Excellency Sir W. F. Drummond Jervois has appointed Mr. Thomas Chalwin, M.R.C.V.S., Government Veterinary Surgeon for South Australia, the announcement having appeared in the Government *Gazette*. This is, we understand, the first real appointment of the kind in the Australian Colonies, and it is to be hoped that, in their own great interests, the other Colonial Governments will follow this example, and select men who, like Mr. Chalwin, can advise them in all matters relating to the prevention and suppression of disease in animals.

VETERINARY INSPECTOR FOR DURHAM.—The Executive Committee of Magistrates for carrying out the provisions of the Contagious Diseases (Animals) Act, at their meeting on January 25th, elected Mr. J. E. Peele, M.R.C.V.S., Chief Veterinary Inspector for that County.

Correspondence, etc.

A SUGGESTION.

DEAR SIR,—I have long noticed what a struggle the friends of reform in our Council have to make, in order to make the slightest advance in the path of progress. Every suggestion from them seems to meet the most determined hostility from those who have some paltry self-interest to guard or prejudice to foster.

I don't know that we have any right to complain, or at least none to be surprised, seeing that this has been the experience of all corporate bodies in their efforts to secure conditions that render progress possible. One thing I should like to direct attention to, is that we have the matter in our own hands.

Next May we shall have an opportunity of giving practical expression to our opinion of the policy pursued by certain members of the Council. A reference to the reports of one or two meetings will enable any one to distinguish who are the friends of progress, and therefore worthy of support. If those gentlemen who will be candidates for office for the first time this year, and whose views can be known only to a few, would follow the example set by Mr. Simcocks, and issue an address, however short, giving an indication of their views on current topics, the profession could with certainty express its desires. This method is adopted both in parliamentary and municipal elections with the best results, and I do not see why it would not secure for us similar advantages.

I intended to say something about the juvenile Edinburgh "Professor," but "Asmodeus" has handled him so well that little more need be said. His so-called "Address," and his impertinent attack upon Mr. Cunningham, are beneath contempt. I do not so much blame the lad as the Principal of the College, who has hitherto proved himself so good a friend, for allowing such trash to find utterance in his presence. I hope the sister profession will make room (a very small space will suffice) for him as quickly as possible.

Yours truly,

Newbury, *Feb. 12th*, 1883. J. FRASER, F.R.C.V.S.

IS PUPILAGE TUITION DESIRABLE?

SIR,—Some months ago I could not have believed there was any chance of Mr. Thos. Greaves and myself agreeing upon anything connected with pupilage. Now I fancy we are very near that point—so near that I will quote from that gentleman's letter certain statements which I accept *verbatim et literatim.*

"1st. *We are agreed* that a higher scholastic education than formerly has become necessary, and that the test should be applied fairly and firmly by an independent examining body in a uniform manner.

"2nd. *We are agreed*, however necessary it may be that a man should be well educated to make him a gentleman, such education alone cannot make him a clever veterinary surgeon.

"3rd. *We are agreed* that lectures, however well delivered and however profound, coupled with much study and book learning, of themselves cannot make him a clever veterinary surgeon.

"4th. *We are agreed* that practical tuition is not only desirable, but is actually essential, if the character of our profession and its public usefulness are to be maintained."

"5th. *We are agreed* that it is, comparatively speaking, a very costly matter to become a veterinary surgeon, especially if the youth is obliged to undergo a term of pupilage, for which he pays £100.

"6th. *We are agreed* that a gentleman having had a diploma granted him, and who commences business on his own account, if he frequently makes gross mistakes, diagnoses incorrectly, treats his cases incorrectly, and that his sick and lame cases nearly always fail to recover, he soon gets the character of possessing an inadequate practical knowledge; he stultifies his diploma, his teacher, his college, his profession, and his examiners.

"7th. *We are not quite agreed* in what manner he should obtain this inestimable knowledge, which is of supreme importance to him in success in after life."

On this last remark, the truth of which I accept, I only observe that it is of no importance in what manner the knowledge be obtained, if only we ensure that it is obtained. *We do not* ensure it by insisting upon a man paying £100 to a practitioner, or by insisting upon his residence with a good veterinary surgeon. *We do* ensure his possession of adequate knowledge by refusing to give him a diploma until he gives proof of it—in other words, by examination.

Finally, Mr. Greaves says: "I believe that the two parties, and, in fact, the whole profession, could be brought to see the wisdom and fairness of carrying out Professor Whalley's motion, with Mr. Cartledge's suggestion added"—viz., that the oral precede the practical examination; if the student fail in the oral he cannot go up for the practical, but if he succeeds in the oral and fails in the practical he shall not again be examined on any of the oral subjects he may have passed in; the student failing in his practical examination shall be obliged to go to some veterinary surgeon to gain the knowledge he lacks, and to bring with him when he comes up for examination again a certificate proving that he has been so employed."

Now, sir, after all the time and money and temper that has been wasted upon this subject, it seems to me that the Council rejecting such a proposal is not really representative. I feel certain the attention of the profession has only to be directed to this compromise to ensure its being adopted. With it we inaugurate a reign of peace, in which time may be found for the Council to attend to smaller but essential matters. Acts of Parliament and Royal Charters we have had enough of. Let us descend from Imperial legislation, and do a little bit of quiet parochial work. Let the practitioner and the professor once again work together and respect each other's efforts. Let science and practice be permitted to show they are not antagonistic.

I really cannot see any objection to legislate on the grounds suggested by Mr. Greaves; all that is necessary is that the motion and rider should be put into grammatical and perspicuous English.—Your obedient servant,

WILLIAM HUNTING.

CREDIT WHERE DUE.

SIR,—In the February number of the Journal I have read a report of the annual meeting of the Irish Central Veterinary Medical Society, in which Mr. Malcolm, when giving a synopsis of the work accomplished by that body, is made to say, in referring to Mr. Simcock's election as member of Council of the R.C.V.S., that "This election, I need not remind you, was due almost entirely to the effort of our Society." Well, having regard to the real facts, I cannot see how he makes this out.

The North of Ireland Veterinary Medical Society is not unmindful of the valuable services and hearty co-operation of the Irish Central in using influence in securing the return of our nominee, but to say that this consummation was entirely, or almost entirely, due to the effort of the Irish Central, is going just a *little* too far.

It will be remembered that the Lancashire, Liverpool, Yorkshire, Midlands, Eastern Counties, and the North of Ireland Associations, issued a joint circular, which was sent to all registered members of the College in the United Kingdom, soliciting a vote in favour of their respective nominees; and I may here remark that in this *vis unita fortior* has been fully exemplified.

The secretaries of each of the above associations had districts apportioned, and which were canvassed by means of these circulars, the Secretary of the North of Ireland Association having for his share all Ireland, all Wales, and seven English counties. Other circulars and letters were issued under the auspices of this Association, and other influence exercised by it, and yet we are told that Mr. Simcocks' election was almost entirely due to the effort of the Irish Central.

I am happy to say there were potent auxiliaries in operation, which culminated in our nominee taking premier place at the election.

1. The professional popularity of the candidate himself.
2. The liberality of the profession in recognising the claims of an Irish representative on the Council Board.
3. The influence of the Veterinary Medical Associations, not forgetting the Irish Central.

In conclusion, I would say that the words of the New Testament are here apropos: "Rendez à César ce qui appartient à César."—Oui, le crédit y compris.—I am, sir, yours, etc., A MEMBER OF THE NORTH OF IRELAND VETERINARY MEDICAL SOCIETY.

A LITTLE OVERSIGHT.

SIR,—The writing ink we use in daily life is probably too small a matter to give us much concern, and yet, like the nail in the shoe, it may be of great importance hereafter. What should we think of a picture which had cost about £1000 if after a very few years its colour faded and its beauty was lost to the observer? Yet this is the case with the signatures upon our diplomas, for which we have worked so hard and sought so anxiously to obtain. The names of four out of six professors on my own "ticket" are illegible in less than six years, and the nearest "existing practitioner" displays in his office the diploma and other certificates of a deceased gentleman. It is true they are a little bit "skyed," but even a M.R.C.V.S. could not read the faded ink without the closest scrutiny, and the public generally are led to believe that these are the proofs of his having "passed the college." May I suggest that the signatories to such important documents should be provided with ink such as is used in solicitors' offices, etc.—Yours, etc., HAROLD LEENEY.

PROFESSIONAL HUMBUG.

SIR,—As a veterinary surgeon I like my profession, and endeavour to do my duty; but I do not like the humbug by which we are surrounded. Why should I, as a qualified practitioner, have every "Boxing-day" a troop of drunken men filing into my yard for a Christmas-box, simply because they bring horses to my forge? and this Christmas gift they demand as a right—indeed, if it does not come up to their expectations, they will threaten to have the animals removed to some other forge; and we all know from experience if the man is dissatisfied, as a matter of course the master follows suit. Why, again, should I be told that Mr. A. or B., another practitioner in the city, keeps a "barrel of beer" in the surgery or "consulting-room," and every time I take "master's hoss" I get a glass? And then, why, again, at Veterinary

Medical Associations should I hear the eternal cant of "our noble profession"? Surely with such existing evils as these we ought to cleanse ourselves from the filth that surrounds us before we preach a doctrine, the effects of which must be pernicious to our interests and to our social position. Mr. Jones, the butcher of my city, and Mr. Smith, the draper, have each supplied his Royal Highness (God bless him) with the ingredients for a banquet, or something in the shawl or drapery line, and up go the Prince of Wales's feathers over the shop door, to be wonder-stared at by gaping rustics; but when his Royal Highness visits my city in his own carriage and with his own horses, and they are at livery at a professional brother's, we do not expect to see him follow in the line taken by tradesmen. But in this I am disappointed, for in a few weeks up go the huge Prince of Wales's feathers, as big as the centre design in Wombwell's show. Again, I ask an eminent horsedealer in my neighbourhood the reason his animals do not visit my forge as usual; it is soon given—"When my horses, with your shoes on, go to Mr. A. for examination, the shoes are taken off and the feet cut about; but when his own shoes are on it is not considered necessary even to take them off;" and I may add that my professional brother stands higher than myself, he having purchased the "goodwill" of an old and extensive concern, whilst I am of much more recent importation. All this is well enough in its way; but why do we at association meetings flatter ourselves on the enormous strides taken of late years by the "veterinary profession — that is the usual term we hear and see published—when we ourselves know that the working of the profession is "rotten at the core"? When such things as these have ceased to exist, we may congratulate ourselves on a brighter and better state of things; but until that time comes round, although we show to the public "an outside bravery," something is certainly "rotten in the state of Denmark."—Yours, etc.,

EAST ANGLIA.

VETERINARY ADVERTISING.

DEAR SIR,—When the Royal College of Veterinary Surgeons granted to certain practitioners of the veterinary art the higher diploma of Fellow, was it intended that this distinction should be printed in full on every label that leaves certain veterinary establishments? or does it savour very highly of the quack we pretend to ignore? I enclose a label a sample of this kind of advertising:—

"Prepared by ——, Veterinary Surgeon, Fellow of the Royal College of Veterinary Surgeons."

I enclose you a clipping from a Norfolk paper of a very interesting case. Now, whether the veterinary surgeon spoken of has taken advantage of the Registration Act I cannot say, but we have no such recognised practitioner, the gentleman being known to me as the keeper of a public-house in the town dedicated to St. Bloater:—

"SINGULAR OCCURRENCE.—A remarkable incident, and scarcely without a parallel in veterinary practice, occurred here last week. On Monday, the 29th ult., Mr. Last, veterinary surgeon, was consulted by Mr. Thacker, milkman, Regent Road, relative to the condition of one of his cows. The animal, which was about six or seven years of age, had up to the day in question been in apparent good health, yielding its customary amount of milk, and on being seen by Mr. Last, that gentleman pronounced it to be suffering from heart disease. He accordingly applied suitable treatment, but on visiting his patient on the following and subsequent days, found the animal very much worse, and on the Thursday, the cow being then in a state of prostration, and in a dying condition, he advised its being killed. The symptoms exhibited by the animal having been unusual, especially taken in conjunction

with its previous healthy state, Mr. Last decided upon holding a *post-mortem* examination. As the result of this, it was discovered that a piece of iron wire had embedded itself in the left ventricle of the heart to a depth of three inches, about half-an-inch more of the wire projecting outside the organ. For the wire to have made its way into the animal's heart, as described, it must have been conveyed in the first instance into the system in feeding, and then in course of time have worked its way to the spot where it was found. The case is one of the most singular that has been recorded in veterinary practice, the only instance of a similar character being that of a bullock, the heart of which had been penetrated by a needle. The occurrence is the more remarkable, as, in this instance, the animal had up till Monday, when Mr. Last's services were called in requisition, been in its usual good health. Mr. Last has prepared a diagram of the animal's heart, showing the course taken by the wire, and the depth of penetration, which he will be happy to show to any one interested."

The diagram spoken of would no doubt be a great attraction behind the bar to the thirsty visitors.

NORFOLK.

A REPLY.

SIR,—It was with feelings of shame that I perused the letter of your anonymous correspondent "Asmodeus," in this month's (February) number of the VETERINARY JOURNAL. That any member of our profession could be found to lend himself to the production of such a scurrilous document, as the letter in question undoubtedly is, must be regretted. Professor McFadyean is doubtless sufficiently well able to defend himself from the cowardly and venomous attack made against him (if he does not elect to treat it with the contempt it deserves), and his well-known abilities as a master of the subject he teaches are not likely to be under-rated on account of "Asmodeus'" brilliant effusion.

What I more particularly wish to draw attention to is the injustice "Asmodeus" does to those students who have graduated from the Dick College since Professor McFadyean has held the anatomy professorship. He insinuates, or I may say asserts, that these students were only half taught the subject in question (anatomy). Facts speak for themselves. Let "Asmodeus" refer to the VETERINARY JOURNAL for June, 1880. There he will find a list of students from the Dick College who had just passed their second examination. For this examination *twenty* students from the Clyde Street School were examined. *One was rejected and nineteen passed.* Out of these nineteen *no fewer than thirteen were bracketed as having passed with "Great Credit," and one with "Very Great Credit."* The examiners were Professor Robertson, now principal of the Royal Veterinary College, and the other the talented translator of Chauveau's Anatomy. Possibly the students of "twenty or thirty years ago," one of whom I should presume "Asmodeus" to have been, could have eclipsed *this* performance, which is only *one* example of what the Dick College students have done and can do under Professor McFadyean. Every student from this school is *compelled* to dissect the whole horse *carefully* at least once, and to produce a certificate of having done so before he is allowed by the principal to present himself for examination, and I honestly believe that this regulation is carried out to the letter. As to the practical demonstrations that "Asmodeus" thinks so much of, he may rest assured that the freshmen who listened to Professor McFadyean's inaugural address will get plenty of them during their curriculum. Few professors would go to the trouble of freezing a whole horse, and making sections (by saw) to show the organs *in situ*—a thing which Professor McFadyean has done. If a student does not succeed in the important subject of special and comparative anatomy, practically as well as theoretically, it is certainly not Professor McFadyean's fault. If "Asmodeus" follows out his

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own suggestion that some one should "look after" the Professor and instruct him in "what to teach and how to teach it," he will soon discover that his office is a sinecure. Professor McFadyean is the senior of any other teacher of the same subject at either London, Glasgow, or Edinburgh schools, both as a member of the profession and as a lecturer. Probably this is new information to "Asmodeus," but a reference to the various college teaching-staff lists and the register of the R.C.V.S. will verify my statement. If "Asmodeus" had chosen to divulge his name perhaps the motive for his splenetic utterances would not have been difficult of solution.—Yours, etc.,

Malpas, 14*th February*, 1883. J. R.

(Other communications having reference to Professor McFadyean's address have come to hand, but space cannot be spared for their insertion.)

AN APPEAL.

DEAR SIR,—Will you kindly allow me through the pages of your Journal to make an appeal to my professional brethren on behalf of the widow and family of a veterinary surgeon lately deceased? The lady to whom I refer is the widow of an Irish veterinary surgeon—Mr. J. Brosnan—and she is left with eight children, in very indifferent circumstances, and without any means of supporting her family.

I feel that the freemasonry which pervades the minds of the members of our profession will not permit this appeal to be made in vain, and I shall be very happy to receive subscriptions, and will acknowledge receipt of same in the Journal.—I am, yours faithfully, THOMAS WALLEY.

Royal Veterinary College, Edinburgh, *February* 18*th*.

TO CORRESPONDENTS.

ASMODEUS.—With reference to the points you mention, an Existing Practitioner after registration, is in the same position as he was before registration.

Communications, Books, Journals, etc., Received.

COMMUNICATIONS have been received from H. Leeney, Brighton; "East Anglia"; A. Broad, London; "A Member of the North of Ireland Veterinary Medical Society"; "Norfolk"; J. Sweetapple, Ontario, Canada; J. B. Wolstenholme, Manchester; "Eye Witness"; M. Chenier, Valence, France; W. S. Carless, Lincoln; "A Student"; W. Donald, Wigton; W. Broughton, Leeds; H. Thompson, Aspatria, N.B.; W. R. Raymond, A.V.D., India; J. Roberts, Malpas; J. Fraser, Newbury; W. Hunting, London; T. Walley, Edinburgh; "Asmodeus."

BOOKS AND PAMPHLETS: *A. Longhi and E. Tirinanzi*, Dizionario dei Termini Antichi, etc., Scienze Mediche e Veterinaire; *F. Quivogne*, La Science et la Discipline; *L. Voigt*, Vaccine and Variola; *F. Quivogne*, La Science et la Discipline pour les Vétérinaires Militaires; Nouveau Dictionaire Pratique, etc., Vétérinaires; Bulletin et Memoires de la Soc. Centrale de Médecine Vétérinaire; *P. Toepper*, Die neueren Erfahrungen über die Aetiologie des Milzbrandes.

JOURNALS, etc.—*Lancet*; *Field*; *Journal de Méd. Vétérinaire*; *Deutsche Zeitschrift für Thiermedicin und Vergleichende Pathologie*; *Revue Vétérinaire*; *Der Thierarzt*; *Archives Vétérinaires*; *Recueil de Méd. Vétérinaire*; *Annales de Méd. Vétérinaires*; *National Live Stock Journal*; *Tidskrift för Veterinär Medicin och Husdjursskötsel*; *Live Stock Journal*; *Edinburgh Medical Journal*; *Wochenschrift für Thierheilkunde*; *Nature*; *L'Echo Vétérinaire*; *Medical Press and Circular*; *L'Echo des Sociétés et Associations Vétérinaires de France*; *La Clinica Veterinaria*; *Breeder's Gazette*; *American Veterinary Review*; *Proceedings of the Medical Society of Kings*.

NEWSPAPERS.—*Scotsman*; *Nottingham Daily Guardian*; *Leeds Mercury*; *Glasgow Citizen*; *The Country Gentleman*.